



THE CULTIVATOR.

THIRD

To Improve the Soil and the Mind.

SERIES.

VOL. II.

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No. IX.

Wheat and Chess.

The destruction of the present crop of wheat by winter-killing, has been greater than has occurred for many years; and we have no doubt, as a consequence, we shall hear of numerous cases of the transmutation of wheat to chess, so generally believed to result from winter-killing. Communications on this subject have already begun to come in, some by way of inquiry, and some to explain the nature of the change which takes place when one plant becomes the other. We select the two first received of each of these, for the purpose of giving as requested, our views on the subject.

The first is from a correspondent at Waterville, N. Y. He describes a very promising field of wheat, as it appeared on the approach of the last winter, believed to be from very clean seed, but which was almost totally destroyed. The field remained untouched, and is now covered with a growth of straw sufficient for the growth of a crop of wheat of sixteen to twenty bushels to the acre, and seven-eighths of this is *chess*." Our correspondent requests an explanation.

Now, it would require a person possessing more of the ability of seeing a long way through the dark, than any clairvoyant, to know so far off as we are, all that had taken place in this field, and where the seed of the chess came from. But as we have seen many such cases with quite *similar results*, where the chess plants very evidently sprang from chess seeds, we can offer an explanation of the manner in which this *might* have occurred.

Chess is a most singular plant. 1. The seed is inconspicuous, and we have found plenty of it in wheat, pronounced by men who prided themselves on their keen eyes, as perfectly clean. 2. The seed is very hardy, and will escape destruction, and grow, when all other grains are destroyed. 3. It accommodates itself wonderfully to circumstances; it will grow unobtrusively and unseen in a timothy meadow, and ripen and drop its seed from plants not over two or three inches high, as we have had occasion to observe; and in this way secretly perpetuate its kind and fill the soil with its grains. These same minute and unseen plants, if they had had plenty of room and mellow soil, would have sprung up, formed a large stool, thrown up numerous stalks, and borne each three to five thousand

grains,—enough to seed a whole acre. 4. Hence, when wheat winter-kills, the plants which otherwise would have been kept down and never seen, spring up and spread prodigiously, and cover the whole ground with their rampant growth. 5. A portion of a field has been killed, and, as was supposed, turned all to chess; another portion escaped, and no chess was observed; yet by measuring off a square rod of each, and examining with great care and minuteness, it was found there were as many chess plants of diminutive size among the good wheat, as there were of luxuriant vigor on the destroyed portion; the large plants, which had plenty of room to grow, yielding nearly *a thousand times* as much seed as the other. This *might* have been the case with the crop our correspondent mentions; but there are several ways in which chess seed is spread artificially, which farmers but little suspect; and a few grains of these will multiply in one season to a heavy seeding of the ground. Foul ground, in the same way, may produce a similar result; or two or three of these causes may operate together.

It is often surprising and unaccountable how weeds will spring up and cover the ground, without our knowing how the land had been seeded with them. We have known a meadow that had lain some twenty years or more, to yield a dense growth of foxtail grass as soon as the sod was inverted; and in another case an old pasture on being plowed, was covered with a heavy crop of pig-weeds. It would have been very absurd, because we could not tell where the seed came from, to have asserted that the timothy had been changed in one case to foxtail, and in the other to pig-weed.

The different causes we have already mentioned, have been found amply sufficient, when taken together or separately, to explain all the supposed instances of transmutation that have come under our notice. But, supposing there are cases very difficult to explain; this difficulty cannot be got over by admitting a still greater difficulty,—nay, an utter impossibility. Seeds, when planted, often produce new *varieties*, but never *new species*. Seedlings never can and never have crossed the specific boundary. But wheat and chess are not only separate species, but they belong to entirely different *genera*; and it would be as impossible for the

seed of one to produce the other, as for a cow to bear a young colt, or a merino ewe a litter of Berkshire pigs.

The other correspondent whose communication we have already alluded to, residing at Portland, Chautauque county, merely *assumes* that a change may be produced in wheat by the pollen from the chess falling upon it. But as there is no *proof* whatever, of such a result, and as science deals in *certainties*, not in conjectures, we cannot attach great importance to this supposition, especially as no such cross was ever produced from different genera, by all the careful and skilful experiments ever performed. Who ever heard of a cross between a cherry and an apple tree? Or between a pumpkin and a pine apple? Who ever heard of half-bred animals resulting from the dog and the raccoon? or from the domestic duck and the turkey-buzzard? When these have taken place, we shall be more ready to look for a half-transmuted wheat head.

We have other proof of an incontrovertible character. If wet weather and freezing will change wheat to chess in *one place*, it will do so in another, under like influences. But there are countries possessing a climate like ours, where chess is never found—where no winter-killing ever produces a vestige of this weed; and some of our own farmers, to our certain knowledge, have with great and long continued care and labor, ceased to raise any chess whatever, no matter what the winters may be. In the one case, wheat is raised in regions of country where the weed has never been introduced,—where there is no seed,—consequently it *cannot* grow. In the other, the seeds have been extirpated from the farms,—hence no chess is ever seen.

With a single question we conclude these remarks. Why is it, that among the countless millions of plants that are said to change from wheat to chess *not one* is ever caught in the act; or why is it that there should not be found one solitary plant *partly changed*, or with distinct wheat and chess on the same root or stem? Large prizes of money have been repeatedly offered for such curiosities, but they have never made their appearance, although we often hear of them a long way off. The fact is, they never existed.

Smoky Chimneys.

I wish you could throw some light through your paper upon the subject of building chimneys that will draw well. I have looked in vain for a good article upon that subject, and need advice. S. J. SHERWOOD, Beloit, Wis., July 1854.

The draught of chimneys is occasioned by the upward tendency of the column of rarefied and lightened air which fills it as soon as the fire heats this column. It operates precisely like a column of water running down a tube, only in a reversed direction. To make a fire-place draw well, the *throat* just above the fire should be contracted to about four inches wide. Through this throat the hot air will rush violently to fill the vacancy above, occasioned by the rising column. Many chimneys draw badly in consequence of being

made too large for the fire to heat the column sufficiently. As a general rule, the chimney should always be smallest just above the fire, and be again slightly contracted at the opening at the top. The contraction at the top prevents the wind from blowing down, the current being a little more rapid at its place of escape, and less easily effected by reverse currents of wind. Our correspondent will find this subject more fully treated of, with several engravings by way of explanation, in Thomas's "Farm Implements," &c. p. 227.

The Weevil in Wheat.

MR. L. TUCKER—The weevil has this year for the first time, made its appearance in our county, and is doing much injury to the wheat crop. As it is something entirely new to me and my neighbor farmers, I should like to get all the information I possibly can in reference to it. Is there a preventive or remedy? Would early or late sowing make any difference? Does it get into all kinds of wheat? We in our county principally sow the white blue stem, which has been grown some ten or twelve years very successfully. There is some Mediterranean grown, but very little. Could you or some of your numerous subscribers give the requested information, it would very much oblige a subscriber. J. G. MEYER, Aaronsburg, Centre Co., Pa., July 7, 1854.

A correspondent in the western part of Ohio, states that it has destroyed nearly all the wheat in that region and has extended into Indiana; and from large portions west we hear accounts of its ravages. Intelligent cultivators have sought eagerly for many years to find a remedy, without much success. Early sown and early ripening crops are more apt to escape. Even portions of the same field are very differently affected, the earlier and best ripened parts often affording a fair return, while the later and poorer portions are completely destroyed. *High culture* therefore, promises as well as any remedy. The Mediterranean wheat is more apt to escape—partly perhaps from its early maturity. Some parts of New-York, where this insect has formerly been exceedingly destructive, have for a year or two past, not suffered nearly so much,—which leads to the hope that like many other insects, it may have its day and pass away—or at least intermit its ravages.

Insect in Wheat.

MESSRS. EDITORS—Enclosed you will find a spire of wheat, with an insect in it. It is destroying my wheat considerably, by eating off the stem just above the upper joint, when in blossom. Timothy has been injured in the same way for several years past, and it has been attributed to the wire worms. The ravages of this insect are shown by the heads turning white while in blossom.

Do you know its character or name, or how it gets into the stalk? There is no opening or mark that I can perceive. It may be a common insect in wheat-growing sections, but I did not know that it attacked timothy in the same way. W. Oswego, July 8, 1854.

On reaching us, we discovered only two specimens of the insect. At first they appeared dead and dried legless larvæ, but a closer inspection showed they were the insects passed to the pupa state. They are about three sixteenths of an inch in length, and one-thirtieth of an inch in diameter—light green, with a slightly

brown head—and consisting of nine rings or joints. They occupied the center of the stalk, which they had partly devoured and killed, the head of the wheat being nothing but empty chaff, and nearly white in consequence of the death thus occasioned. The stalk was straight, and the sheaths entirely uninjured. We have not met with this insect before, and do not know it.

Telford Roads.

The time is approaching when farmers will be no longer satisfied with the present combination of earth, ruts and mudholes in forming what is commonly known as public highways. The rapid increase in railroads and other means of transmission, has imparted quite new ideas of locomotion; and many are becoming very much averse to plowing through mortar beds with loaded teams. Plank roads, at one time, promised much, but from several causes they are likely to result in disappointment to their proprietors at least, except on the larger thoroughfares, where the amount of travelling will warrant the use of the best white-oak plank for their construction. A most reliable and durable substitute may be found however, in the Telford road, which may be cheaply constructed wherever scattered stones and gravel beds are accessible; and a brief notice of them may be useful by way of contributing to the stock of information on the subject of road-making, now becoming so desirable.

The foundation of the Telford road is a layer of rounded stones, which, being always more or less ir-



regular, the smaller or sharper end is placed upward. The smaller stones are laid near the side of the track-way, and the larger towards the middle, thus giving the road an even convex form. In the best roads the spaces are then filled with small broken stone, which by the travelling upon it, is firmly wedged into the spaces between the larger stones already laid, and the whole becomes a solid, hard, immovable mass. In the absence of small broken stone, gravel will wedge firmly into the interstices, but will not become quite so solid as the other material. The whole surface is covered with a few inches of gravel or broken stone, and forms a smooth, hard, excellent road. Where the soil on which the stones are laid is likely to become soft in wet weather, a previous layer of stones should be deposited before the pavement is laid.

There are many parts of the country where the fields of the farmer are encumbered with a superabundance of stones, and which may be had without any cost; and when, in addition to this, gravel is accessible, these roads may be made at a very moderate expense, and if well constructed they will last a long period. Even when very carelessly made, the stones being thrown in without any arrangement, and with none of the advantages of wedging-together already described, they have been found to answer a most valuable purpose, although vastly inferior to well constructed roads.

Thermometer for Farmers.

Many a farmer has had the corner of his ear or the point of his nose touched most inconveniently with the frost on going out on a wintry morning without knowing the intense cold that actually existed at the time; and not a few have suffered most severely in bodily health, if they have not actually suffered from a "sun-stroke," by overdoing in the hay or harvest field before they were aware of the excessive heat. Few, who have not actually made trial, can be aware of the continual convenience of knowing by a glance of the eye the precise temperature of each day—the security it affords in providing for the comfort of domestic animals, who otherwise might severely suffer—the protection of cellars against frost in case of emergency—the shielding of garden vegetables on the approach of severe night frosts—and the preservation of rooms in winter at a uniform temperature, especially during sickness. For the latter purpose, (as well as for the others,) the sensation of persons in health is altogether too variable and uncertain for a guide, dependent as it is, on the state of the system, amount of exercise, nature of clothing, &c. In addition to these, the thermometer is of great use in churning and butter-making, and in the manufacture of cheese. When it is remembered that all these advantages may be secured by the payment of a single dollar, it is surprising that so few avail themselves of what may be so cheaply obtained. The best, clearest, and most accurate thermometers, adapted to the climate of this country, that we have met with, are those manufactured by Kendall of Rochester—the imported ones are mostly quite unreliable and catchpenny articles, many of them not running below zero, or above boiling, and therefore of no value for general purposes.

Ketchum's Mower.

EDITORS COUNTRY GENTLEMAN—Last week I saw the operation of one of Ketchum's mowing machines. Several of them have been brought to this town this season for use. Its operations were unsuccessful, principally, as I thought, because of the rawness of both machine and operator.

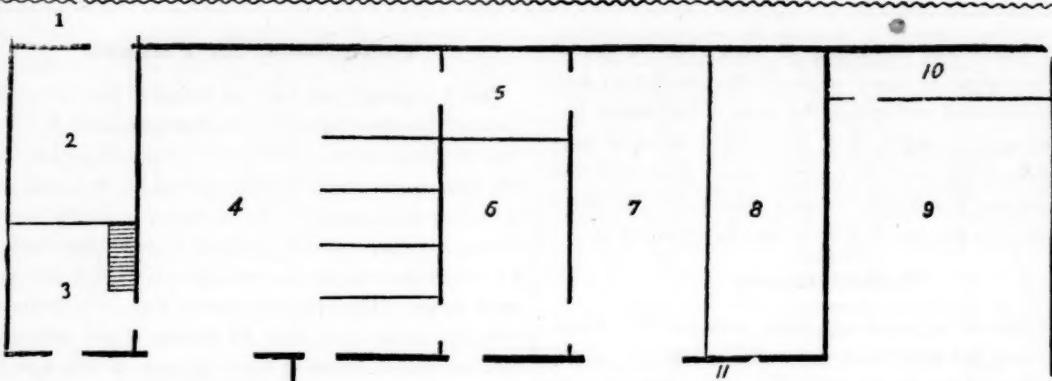
But I took my pen to name a great objection to these machines. The objection is this; the team must be driven to almost a trot, or much beyond a natural walk—entirely too fast for long endurance. This is one objection, and another is, they are too heavy both in weight and draft for an ordinary team of two horses.

I name these objections that they may meet the eye of the inventor, and if possible be improved.

And let me ask why our writers when writing about such implements, do not state such objections if there are any, that farmers may not be misled in purchasing, and that the manufacturer may improve his machine?

I am a farmer—do not own a mowing machine of any kind, and have no other motive in writing the above than to suggest a little improvement.

Both the objections I have named are observed by all who have witnessed the operations of the machines. Yours, A. C. J. Richfield, N. Y. July 17th 1854



Plan of a Barn.

MR. TUCKER—With this you will find a rough draft of the ground plan of my barn, which you are at liberty to use if you think it will be of any use to the readers of your papers. The following notes will explain the plan:

1. Hog-yard, back of barn.
2. Hog-pen, 16 by 12 ft., with door to hog-yard.
3. Fool-shop, 12 by 12, with stairs to corn-house over head.
4. Waggon-house and horse-stable, 28 by 28 ft., with stalls for 4 horses. Large doors in front, into door yard, and small door into barn-yard—door into granary (5) and also into cow-stable (6).
5. Granary, 8 by 12, with doors to horse-stable and also to barn floor, (7).

6. Cow-stable, 12 by 20, with manger next to barn floor, and door into barn-yard and gate to barn floor.

7. Barn floor, 12 by 28, with scaffold over head, and large doors into barn-yard, and window.

8. Bay for hay or grain, 10 by 28.

9. Low shed, open in front, 20 by 24 ft

10. Hen-house, 4 by 20 ft.

11. Barn-yard.

The entire loft, with the exception of that over shop and hog-pen, is occupied for storing grain and hay, and has a floor laid double, and of course perfectly tight. Over shop and hog-pen is a corn room, 12 by 28. Dwelling house 150 ft. southwest of barn. The whole covered with best pine shingle, and siding and painted, at an expense of about \$750. WM. J. PETTEE. Lakeville, Ct.

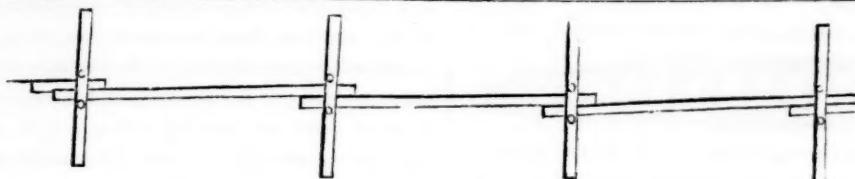


Fig. 2.

Improved Kind of Fence.

MESSRS. EDITORS—The subject of fencing is one that is of peculiar interest to the farmer, and the inquiry is, "what is the cheapest method of building a strong and durable fence and one that will not occupy too much land?" We find that the old fashioned zigzag fence is neither strong nor durable; besides, it occupies about twelve feet of land, and that, on a large farm, will soon cover five or six acres. Another form of building a fence is of stone with a log on the top. This is very good while it lasts; but the stone, being heaved by the frost, soon fall down, and then the whole must be taken up and built anew.

We said the old zigzag fence was neither strong nor durable. Cattle or horses, that are in any wise inclined to be breachy, find it an easy matter to push it down, and the people of this windy country know for themselves that every heavy gale that blows, is apt to carry away more or less of it. We formerly used to spend three or four days every spring laying it up where it had been blown down during the winter.

But a new plan of fencing is now being put into practice that is likely to entirely supersede the old one, as it comprises all that a farmer can ask or expect of a

Fig. 1, represents the blocks and stakes as they are put together and ready to lay the rails in. rail fence. It occupies a space only four feet wide, and is built in the following manner. In order to be lasting, it should be built of cedar, or some other durable timber.

The cross pieces are called bunks and caps; the former four feet long, and the latter, two. The bunks should be from seven to eleven inches in diameter, and the caps large enough to admit of a three inch hole

Two holes must be bored in each; eleven inches asunder in the bunks and nine in the caps. From some straight timber, stakes are split, four and a half or five feet long, according to the height the fence is required to be. These must be shaved six inches at the bottom, and at least fifteen at the top, so as to give the rails a chance to settle without making too large a space between the top rail (which is laid on the cap,) and the next one below it. Perhaps the accompanying figures will make the whole appear plainer to those who never saw any of the fence.

Fig. 2, is a ground plan of the fence when done. The rails should be laid side by side, and a block sawed to fit between the stakes, from four to eight inches

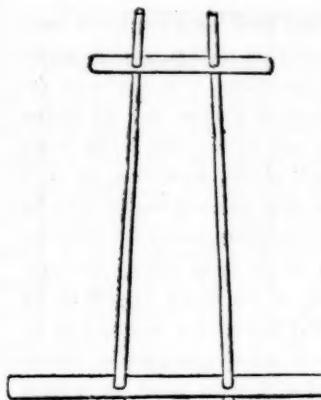


Fig. 1.
that no farmer can have the least shadow of an excuse for not adopting this plan without delay. This fence, when laid up well, is the most strong and durable known in this country. A CANADIAN. *Wolford, C. W.*

On Curing Hay.

MR. TUCKER—Having noticed in the Cultivator, the remarks of your correspondents upon the proper time to cut hay; and also deeming that that article did not embody the whole meaning comprehended in the term "haying," I have thought proper to pen for you, the following lines, which you are at liberty to make use of as you see fit.

It seems to me to make but little difference when hay is *cut*, unless it is properly *cured*. I have no doubt that the best time to cut hay, is when there is the most and thickest juice in it; as that is the only portion, essential in nutrition. It therefore becomes us to inquire how we can cure hay so as to preserve the juice with its entire stock of ingredients for the support of the animal for which it is designed. We think certainly, that it cannot be by the common practice of cutting, and wilting grass, and then drawing it into the barn, or what is worse placing it in stacks against a time of need. For by this method we obtain *sour* and *musty* hay. And why? because, when fermentation commences, it is carried too far, and instead of a *saccharine*, we have an *acid* product. But, if that hay was thoroughly dried, i. e., the watery portion of the juice expelled, there would be no such result. We all know that when hay first begins to heat, or ferment, that it smells extremely sweet; but not so when it has fermented until, when it is handled it is very smoky, and turned a reddish color. We have dried it until many of the large clover stalks, with the blossom attached, would break square in two; and old hay makers, and stock raisers, said it was entirely spoiled; and yet by putting 4 to 6 tons of it in at a time, it "heat" sufficiently to wilt, and settle so that in the winter following it was not so hard or stiff, as the same quality of hay that was fermented until the color was turned. In fact it is almost impossible to dry hay, cut at the proper time, so that it will not heat if put up in large quantities at a time.

Let your dairymen and stock raisers, ask themselves, how they would like to have all their bread fermented

thick, according to the space required between the rails.

The blocks may be bored by horse, steam or water power, speedier and truer than it can possibly be done by hand.

The cost of building is so insignificant when compared with the quality of the fence when done,

until it was *sour* or even *musty*, before they were permitted to eat it. What, think you would be the effect upon the health of the nation, were it generally adopted, and yet this is almost universally the case as regards the animals we daily use and draw nourishment from. Not only is such food unpalatable and unhealthy, but the chemical change that takes place, in a great measure destroys the fatty and muscular ingredients of the hay or other food. Again, we know that molasses or syrup, unless it is boiled down very strong, or the watery portion be expelled, will ferment, and become unfit for use, and thus again, it is with the juice of hay; unless it is sufficiently boiled down by the rays of the sun, it will become acid and rank, and unfit for the purpose for which it is designed. HOLINDO. *Hamilton, N. Y.*

Wheat Without Summer Fallowing.

MESSRS. EDITORS—A young farmer who thinks himself too poor to take an agricultural paper and whose opinions and practices are consequently mere echoes and copies of those of his father and his more immediate neighbors, recently inquired of one of your subscribers what he thought of the expediency of turning under the sod in a field which had been in pasture for two or three years. The reason why he sought advice in regard to this matter, I found, was that he was to have in consequence of some derangement of his plans, both himself and his team more at leisure after wheat harvest than he previously expected, and that the old idea about the absolute necessity of a bare fallow and several plowings in the course of the summer still lingered in his mind, and made him fear that he should never get any pay for his labor in plowing up his pasture only once and that so late in the season. He feared he should get laughed at by the old hunkers if he could not point them to a good crop to stop their jibes and jeers. Summer fallowing is the *general* practice before sowing wheat all around him. This is the only method of putting in a wheat crop to which he has been accustomed. He dreaded the plan of once plowing without summer fallowing while at the same time he was unwilling to have himself and team lie comparatively idle during August and Sept.

He was advised by your subscriber to take every creature off the pasture so as to permit the grass and clover to get a little start; then to put on two teams and plow with a Michigan double plow 9 or 10 inches deep in August; and then with a small plow or cultivator to stir the soil at or before seeding, but not to go deep enough anywhere to disturb the sod. By adopting this method he was encouraged to expect, (inasmuch as the soil was not a very stiff clay nor very weedy,) as good a crop as if he had summer fallowed the field in the usual way.

Your subscriber was asked by this young farmer if he had seen in your paper any account of raising wheat in any such circumstances as those in which he proposed to do so. Nothing of the kind could be pointed out to him. Perhaps this may be because your sub-

scriber's memory is poor or his examination of the Contents or Index too superficial. If any of your readers should have raised a crop of wheat, once or oftener, *without* summer fallowing, it might do good to many, if they would state the results of their new method through your columns. Obs.

Improve Your own Stock.

Occasionally we meet those who lament that they can do nothing towards obtaining an improved breed of animals because they cannot afford to avail themselves of imported or superior animals to begin with. To such we would hint that all the improved breeds now commanding high prices must have sprung originally from common stock. Some particular male or female must have been selected for some special good quality, and this good quality would be inherited more or less by the progeny of that particular animal. This must have been the starting-point of the most celebrated breeds of domesticated animals. Certain animals having some special superiority, must have been selected for breeding; and this quality being sought after and aimed at from generation to generation, and every auxiliary which good judgment could suggest in feeding and management, being brought to assist in the development of the quality or qualities desired, at length a breed of animals celebrated for some particular point of excellence was obtained.

Now if in this way all our distinguished breeds have been produced in the past and in foreign countries, the secret is at the service of those who think they cannot afford to get a good animal or the use of one to commence breeding from. But this may be only an apology for indifference, or for a very questionable economy. It will take generations, perhaps, to improve at home up to a point that one may start from by the expenditure of a few dollars.

Stabling Cows.

MESSRS. EDITORS—I saw an article in the Jan number of *The Cultivator*, calling for information in regard to stabling cows, by "A Subscriber."

If your correspondent will adopt the English mode of fastening, I think his cows will be kept comparatively clean, with less trouble. These fastenings are sometimes called the "English Stanchions."

A timber is laid for the back part of the manger, or part nearest the animal's feet, which may be about 12 inches high; into this timber two upright scantlings, or stanchions, are placed about 6 inches for cows, and 7 to 8 inches apart for oxen, in the center of the stall; one of them, the far side one, is permanently set and fastened at top and bottom, the other or near side one, turns on a pin at bottom in a mortice that allows it to turn free; the top mortice should be some 12 to 18 inches in length, which is frequently made in a six inch scantling, placed exactly over the timber below and just above the necks of the cattle, and fastened to the partitions, or small posts between the stalls. When the cow has taken her place, the stanchion is raised to

its perpendicular position; and as pins have been found to work loose by continual motion, and occasionally to get rapped out by the horns, it is now more generally secured by a block of timber say 15 inches long, which turning on a pin at one end, drops down into the long mortice back of the stanchion, as it is raised up to its place; a thin piece of board may be nailed to the bottom of the scantling under the mortice, to prevent the fastening block from falling through, and to avoid all possibility of its being rapped up by the horns; it is in this way made very secure, and no accident, or inconvenience to the animal need be feared.

The floor should be laid with short plank on a level with the bottom of the manger, and back from it to the hind feet of the cows, say 5 feet, the remaining part of the floor, (three to four feet is enough) should have a drop of 8 inches, i. e., it should be laid with plank running lengthwise with the stable, or at right angles with the former, 8 inches lower than the front part or platform on which the animal stands.

This will secure in a great measure, with ordinary attention, the object of "A Subscriber," as his cows will then lie down in their places, without any necessity, or disposition to step back preparatory to lying down, which is generally, the principal cause of the trouble complained of. The above mode of fastening is adopted to a considerable extent in this country, and if your correspondent will make a little inquiry among his neighbors, I presume some one will show him the plan carried out, and its mode of operation. Respectfully yours, &c. ELI MOORE. Southington, Hartford Co., Ct.

Experiment in Feeding.

WILL RUTA BAGA PAY TO FEED?—Having occasion a few years since, to feed a pair of large oxen and having a lot of Ruta Bagas on hand, I tried the following experiment. I commenced in December, when the one weighed 3,800 lbs. I fed them one week with hay and three bushels corn-meal at 75 cents, \$2.25—increase 25 lbs. The second week, I fed them one and a half bushels meal and nine bushels ruta bagas—with this they eat very little hay—increase 50 lbs. The third week, fed the same as the first—increase the same, 25 lbs. The results stand thus:

1—3 bu. meal, \$2.25—gain 25 lbs. at 6 cts.,.....	\$1.50
2—1½ do do	1.12
9 do ruta baga. at 21 cts. } gain 50 lbs. at 6 cts.,..	3.00

3—The same result as the first.

I continued to feed according to 2d experiment and never saw oxen take on flesh faster and become sooner fit for the butcher. Be careful always to feed clear meal 2 or 3 weeks before slaughter as otherwise the beef may have the flavor of the bagas. My bagas cost me to raise about 6 cents a bushel. Cattle never eat on bagas; and I conceive them to be the only root that will pay for raising to feed. All stock like them, I think them worth more than potatoes by the bushel, as they never scour as potatoes do, while 4 bushel of bagas are as easily raised as one of potatoes. G. W. P.

The Horticulturist.

The last number of this excellent journal, contains as usual a rich collection of practical matter, valuable to every gardener and fruit raiser, from which we condense a few facts and observations.

ORNAMENTAL TREES AND PLANTS.—A communication from H. W. SARGENT, of Fishkill, one of the most intelligent and successful horticulturists of the country, contains a list (with comments,) of some of the finest ornamental trees, shrubs, &c., among the newer sorts, that have proved hardy at that place—we present a very brief abstract:

Forsythia viridissima, blooming profusely and very early, and *Weigela rosea*, with roseate flowers late in spring, have been found among the finest of the newer ornamental plants. Among the newer *Magnolias*, proving as hardy as *conspicua*, *Soulangiana*, *tripetala glauca*, &c., are *M. fuscata*, *cordata*, *Frazeri*, *longifolia*, *striata* and *gracilis*.

The following are highly recommended;—*Paulownia*; the different varieties of *Hawthorn*, including the pink, red, double white, and double red; the English *Azaleas*, and the newer Belgian varieties,—exceedingly gorgeous; *Deutzia scabra* and *gracilis*; *Ribes sanguineum* (double) *R. Gordoni* and *speciosum*; double flowering sloe; *spiraea prunifolia*; the double pink, white, and yellow horsechestnut, and dwarf horsechestnut.

The Chinese *Wistaria*, kept well cut back, assumes ultimately the character of a weeping tree, and *blooms through the summer*.

The *Virgilia lutea*, not new, but little known, is very highly and justly commended in this article.

The hemlock, English yew, and beech, are recommended for the most ornamental hedges. The Buckthorn, Washington thorn, and Osage orange for utility.

The Norway is pronounced the finest of all the maples. A large list of exotic forest trees are enumerated, which our limits prevent naming.

We cannot fully agree with the writer in one thing—and that is in admiring so many *weeping trees*—most of them are at best but distortions of nature.

MINNESOTA FOR FRUIT.—An interesting communication appears from G. C. MERRIFIELD, on the climate and fruit of that territory. It appears that the thermometer sometimes sinks to 35° below zero, yet all the more common kinds of fruit but the peach and grape appear to succeed well. The past winter, when the thermometer twice sunk to —35° was rather severe on young heart cherries; the dukes and morellos were uninjured. Plums, dwarf pears and apples escaped injury. A striking difference was found in the hardness of young root grafted apple trees (as we have before shown for the north western portions of the Union,) and the following list is given of these:—*Entirely hardy*,—Peck's Pleasant, Autumn Strawberry, Porter, Red Astrachan, Fameuse, St. Lawrence, Early Joe, Summer Pearmain, Tallman Sweeting,* Lady, Wager-

* Not "Tallman," as Downing and others had it—the man from whom the name is derived, misspelled his name, and the bad orthography should not have been copied. TALLMAN is the universal and correct mode.

ner, Pomme Grise, &c. *Slightly affected*,—Gravenstein, Swaar, Esopus Spitzenburgh, English Russet, Rawle's Janet, White Winter Pearmain, Yellow Bellflower, White Bellflower, Sweet June, Domine, Northern Spy, Early Harvest, Golden Sweet, Red Detroit, &c. *Severely injured*,—Vandevere, Maiden's Blush, Ladies Sweeting, Summer Rose, Summer Queen, Newton Pippin, Rambo, &c. We give this list for the sake of comparison, as in some particulars it differs from other similar lists; and to assist fruit raisers in that territory to select the hardiest for root grafting.

The Clinton grape proved perfectly hardy; the Isabella was injured, some being killed down to the ground.

Gooseberries, currants, and hardy raspberries, were uninjured.

Peach trees were badly scorched, but are sprouting up again. Worked trees proved quite as hardy as any.

From the above, it is inferred that apples, pears, plums, Duke and Morello cherries, and small fruits generally, may be successfully cultivated there.

It appears remarkable that the spring should open there sooner than in western New-York, by a week or two, but the last spring was an exception in New-York to every thing that preceded it, the weather being reversed, and the warm first and cold afterwards.

There are many influences operating in the destruction of vegetable growth in winter, besides severe cold,—such as too much moisture, sudden exposure to the sun's rays, rapid changes of temperature, absence of snow on the ground, &c. On another page of the Horticulturist, we find an account of the destructive effects of the winter in Michigan, having a milder climate than Minnesota, and the past winter not unusually cold there. The changes were frequent and sudden, and the ground bare. Many peach and dwarf pear trees have died—strawberries generally died unless protected. The particular locality in Michigan where this occurred, is not given.

EARLY CHERRIES.—The editor states that the *Belle d'Orléans* proved the present season the earliest of all cherries, *Early Purple Guigné* and *May Bigarreau* immediately following. In other seasons, the two last have ripened first. The next earliest after these are *Early White Heart*, *May Duke*, and *Coe's Transparent*. [We have found the *Doctor* a better cherry than *Early White Heart*, ripening sooner, and bearing as abundantly. *Gov. Wood*, the best of all cherries, is nearly as early.]

Culture of the Gooseberry.

Our readers are familiar with the fact that the English varieties of the gooseberry, which succeed so admirably in the land of their origin, often entirely fail from a peculiar mildew, under the hot suns of this country. We observe in a late number of Moore's New-Yorker, a successful mode described by R. B. WARREN, which has apparently much to commend it. He has not been successful by the usually recommended remedy of

mulching, but plants his gooseberries on the *north side* of a common board fence, which is doubtless useful as affording a partial shade; but the most important part of the operation consists in placing a peck of yard manure compost every autumn around each bush, to be spread over the ground and spaded in the following spring, and kept well hoed through summer. The old wood is pruned out every spring, and straggling shoots pinched during the season of growth. The Crown Bob and Whitesmith have borne "enormous crops" of fruit for the four past years by this treatment, without any mildew; and there is no doubt that the amount of enriching compost worked into the soil, whose surface is kept constantly mellow, operates in a manner equal to any mulching for the preservation of moisture, while the pruning and fertile soil produce a vigorous growth extremely favorable to the healthy maturity of the fruit.

Grape Culture.

MESSRS. EDITORS—Will you please inform me, through your very valuable paper, *The Cultivator*, about the grape. How many vines should I have to the acre—which way should the rows run—what is the average bearing of the Isabella and Catawba, when under a good state of cultivation—are leached ashes good manure for them—is it as profitable to sell the grape by the basket, as to manufacture into wine and then sell—and when is best time to cut slips? What is the best soil? S. W. COWLES. *Unionville, Conn.* July 11, 1854.

The plants for a vineyard should be about 5 or 6 feet apart. We have never discovered much difference as to the direction of the rows, good culture and rich soil being the main requisites. Some prefer rows running north and south, so that the sun may shine equally on both sides. The Cincinnati vineyards have the vines trained to single stakes, so that all sides are equally exposed. We do not know the amount of crops actually produced from an acre of grapes. A portion of leached ashes is good for the grape, but like most other plants, it is mainly benefited by a mixture of vegetable and animal manure, in which stable dung should be most abundant. The soil should be deep, loose, mellow, and rich, and should not by any means have a wet subsoil. Subsoiling or trenching should always be practiced, and when necessary, the most thorough system of under-draining. The cuttings are made in autumn or winter. We should not by any means recommend the attempt to manufacture wine in Connecticut,—selling the fresh fruit in the cities will be found far more profitable, especially since they may be so easily kept till winter. Should our correspondent wish full information, he may find further directions in Elliott's *Fruit Book*, and in Buchanan's *Treatise on the Vine*,—although both of these books favor the general manufacture of wine beyond what we think beneficial to the interests of the community.

THE WINDHAM CO. (CT.) AG. SOCIETY hold their next Fair at Brooklyn on the 13th and 14th Sept. We are indebted to J. B. WHITCOMB, Esq., Rec. Sec'y of the Society, for its list of prizes.

Flooring for Stables—Walls for Open Cisterns, &c.

Those who live easily accessible to cities or where gas-tar may be obtained, may make a hard and water-proof coating, by a mixture of gas-tar and coarse sand. We have seen compact, floor-like walks in gardens and pleasure grounds, made in this way, at a moderate cost, and on sloping surfaces, it possessed the eminent advantage of never being liable to wash. As the water does not enter it, it is not cracked nor affected by frost. Water-lime cisterns answer a good purpose for retaining water, where the frost cannot reach them; but one freezing completely ruins them. This is not the case with the tar and sand; hence it may be used for open reservoirs, small ponds in ornamental grounds, &c. Impervious stable floors may be made in the same way, which will possess the advantage of carrying off without waste all the liquid portions of the manure, to tanks, reservoirs, or absorbents placed for this purpose. Common tar would probably succeed better than gas-tar, but is much more costly—we have known where a small portion of tar had escaped from a barrel on a bed of sand, a compound formed as hard as sandstone, and which was not in the least affected by the freezing and thawing of successive winters.

Fall Plowing.

MR. L. TUCKER—In the Feb. number of *The Cultivator*, I noticed an article on fall and winter plowing, in which it was highly recommended to plow in the fall, except on sandy or sandy loam soils—the writer taking the ground that such soils will leach if plowed in the fall. I do not know but it is so, but I have yet to learn that if you plow such a soil in the fall, it is at the hazard of its fertility—especially if it is sward land, and the first crop is intended to be corn. Instead of the action of the frost and snow of winter, increasing the porosity and friability of such a soil, it tends to settle it down together, and renders it less liable to be affected by the drouth, which is something to be thought of when we have such dry seasons as we have had for two years past; and then the sod rots earlier than it would if it was plowed in the spring, and gives its fertilizing qualities as a manure to the young corn as it just commences to grow—a time when it is needed if ever, to push it forward, so that the hoe can be used to keep the weeds in subjection. Last year I had a field of corn of some eight acres; a little more than half, was plowed in the fall, and the rest in the spring. When I came to harvest it, that plowed in the fall, was nearly if not quite one-third the best; a great deal heavier growth of stalks and longer ears; and it stood the drouth better by half. Where it was plowed in the spring, the corn leaves began to roll a week or ten days before they did where it was plowed in the fall; and when there came any rain, it seemed to leach through and leave the ground as dry as ever. I am in favor of fall plowing for any crop. It is equally as good for other crops as for corn, as far as my experience goes. A SUBSCRIBER. *Malone, N. Y.*

Address of A. B. Dickinson.

GRAZING AND BUTTER MAKING.

We have not for a long time met with an agricultural address containing such an amount of condensed practical matter, and exhibiting such a degree of close observation and shrewdness, as that of A. B. DICKINSON, of Havana, N. Y. before the Tioga Co. Ag. Society, Pa. It is wholly devoted to the subject of grazing in its different aspects, and although some of the views expressed may not receive the full assent of all farmers, yet there is much to interest and instruct, and much that is suggestive of improvement. This address affords a strong contrast with the many we receive from different quarters, characterized with theoretical and pseudo-scientific reasoning, and as such it cannot fail to please those who have become tired of discourses on husbandry from learned and eloquent men from towns and cities. Our readers will find much to interest them in the following extracts; the first on the subject of *dairy pastures and butter making*:

The first quality of butter-land is confined to portions of the New England States, New Jersey, Pennsylvania and New York, while cheese can be made and sheep grown wherever grass grows, as I will endeavor to show hereafter. First quality of butter has been worth, on an average, for the last twenty years, twenty five cents per lb. Last year it brought, in New York market, thirty-one; this season twenty-five cents; and when I speak of these prices I mean the very best quality that can be made, which is very small—but might be very much increased. You have here all the elements for making just that kind of butter. To begin with, you must have in your pastures Timothy, White Clover, Blue Grass, Red Top, or Foul Meadow Grass, which I think is one and the same thing, only differing as it grows on different soils, pure soft water, and a rolling or a hilly country. All these things you have, or may have, as these different grasses will all grow well, if sowed and properly cared for; and I have never seen the first pound of good butter made where the cow did not feed on some or all of these grasses; and it cannot be made from these until they have been sown long enough to have the soil swarded over, to protect it from the sun, frost, and drouth. There will be then, and not till then, a solidity and sweetness to the grass that will give to the butter, that rich, sweet flavor which makes it so desirable. Butter partakes not only of every thing the cow eats and drinks, but of every thing offensive within its reach after it is made; as for instance, if a cow be fed on Rutabagas, her butter and milk partake of that flavor. If she feeds in pastures where leeks, garlics and wild onions grow, there will be a still more offensive flavor. If she feeds in pastures where she can get a bite of briar leaves, beech or apple-tree leaves, or any thing of the kind, it injuriously affects the flavor of the butter, though not to the same extent, and would scarcely be perceptible for immediate use. So with red clover. Butter made from cows fed on red clover is good when first made, but when laid down in packages six months or a year, it seems to have lost all its flavor, and generally becomes more or less rancid, as the clover was of rank and rapid growth on which the cow fed. The water the cow drinks must not only be soft, but clear, living, wholesome water, fit for the use of man. If she drinks from stagnant, filthy water, it will knock off three or four cents the pound from butter, all other things being right.

In the western country, on plain or prairie, the most of the water, in dry seasons of the year, is in stagnant streams, or pools covered with a green blanket, and just in the same proportion as it is offensive to the smell or taste of man, it will exhibit itself in butter, when laid down and kept for any length of time; and yet none nor all of these things on which the cow feeds injuriously affect the making of cheese, for the reason that the rennet necessary to form the curd, gives so sharp and different a taste, that all others are neutralized. The work of making butter is not completed when you have every thing necessary for the cow to feed on; you must provide a good spring-house where every breeze is as sweet as that wafted from the rose itself: and every thing not only cleanly, but the butter must be worked at the right time and every particle of butter-milk must be worked out; and when that is done the working must cease. A little too much working spoils the grain and it becomes oily, and is only a second or third rate article. Salt must only be used in sufficient quantities to make it palatable, as salt is not necessary to preserve butter any more than it is to keep lard. Be sure to use Liverpool or Turks Island, as no other Salt has stood the test, although Onondaga saves pork just as well, and beef and butter reasonably well for immediate use; but for keeping until the next spring, it is not so good, as its flavor is lost. Great care should be taken in selecting salt, as the manufacturers, at Syracuse, have become very expert in grinding and putting up their salt in imitation of the Turk's Island and Liverpool, and yet the butter when salted with Onondaga salt, after lying six months in packages, never fails to disclose the fact by a loss of two or three cents on the pound to the manufacturer.

The superiority of *rolling* land for pastures, is attributed to the ready drainage, preventing the mildew of the grass in rainy seasons, so injurious to the flavor of butter. Would not a thoroughly tile-drained pasture possess all the advantages of a hill-side?

On the subject of the *profits* of keeping cows, and the management of permanent pastures, we quote the following remarks:

A first rate cow well cared for, will make 200 lbs. of butter in a season, that is one pound a day for two hundred days, and that at 2s. per pound is \$50. Her milk will make 100 lbs. of pork worth six dollars more. We will call three acres sufficient to keep one cow a year, which is a large estimate for good grass land. This is a better business than can be done on the best wheat-land in the country, with this advantage, that every year, the farmer uses his farm for grazing it is improving; if like these grass-lands in sight, they will improve at least five per cent a year in productiveness, if properly used. I do not want to hear a farmer say that on such land, his meadows or pastures are running out. I can only say to that farmer he does not understand his business; and if he will sow one bushel of plaster on each acre of land, every year, and not pasture his meadows after mowing, neither in the fall nor in the spring, nor turn into his pastures until there is something for his cattle to eat, he will in a very few years have meadows that will average two and a half tons of hay to the acre; and one acre and a half will pasture a cow through the season, and two and a half acres keep a cow the year. In twenty years, by this system of farming, dairy lands now, would become fattening lands. And what I mean by fattening lands is where pasture is so nutritious that steers will fat in pasture, from the 10th of May until frost affects the pasture in the fall, as fast as the most skilful feeder could fatten them, on the best of hay and as much grain of all kinds as he chose to feed them. That I

call fatting land. Of this quality of land there is far less than of dairy lands, and it is more scattered, yet they are the best dairy lands in the world, where the water and climate is good, and no offensive vegetable grows with the grasses.

On the subject of permanent pastures, we are not surprised that there should be some difference of opinion, and that many graziers should esteem them so much superior to those more frequently seeded down. A remark in a subsequent part of the address serves to explain the reason of this reputed superiority. The stalks of the hay from new meadows we are told, are "*coarse and hollow, and but little better than straw*,"—which is wholly in consequence of the sowing grass seed too thinly. Apply half a bushel of seed per acre, and *the crop will not only be doubled in quantity*, as we have proved by experiment, but from its thick and fine growth, it will be greatly increased in *quality*.

The following is a large story,—on the productiveness of cows, but as it is given on good authority we quote it as we find it; and we hope our friend of the American Agriculturist, who wholly discredits the account of the celebrated Oakes cow, (as we see by a late number of that journal) which was claimed to give but about 16 lbs. of butter per week, or 5 lbs. less than these, will examine into this matter, and either procure authentic evidence of its correctness, or establish its error.

I have made forty-four and one-half pounds of butter from two cows in seven days; more than three pounds each, per day. They were well wintered and were fed back not only their own, but as much other milk, as they would drink. Their average weights of milk per day, was over fifty-four pounds. They were the best out of a lot of more than two hundred dairy cows.

We close these copious extracts from this address (which we trust will not be found to contain a word too much) with the following valuable directions for preparing butter for market:

I think I did not add more than one half of a pound per day each in the quantity of butter, by feeding back the milk, as it was at the time when the pasture was at the very best. This extra feed would have kept this large quantity up when the grass was not so good.

The butter was good—but not first quality, not so solid nor as highly flavored as that made on pure grass. I am thoroughly convinced that nothing that has ever been tried will make the very best of butter, except the grasses which I have mentioned. The butter made on the sweet scented vernal grass is as good as any when first made, but like that made from red clover when laid down in packages loses its flavor.

If the first quality of butter could be made from any or all kinds of roots, the Dutch would have succeeded in this, as they are, to say the least, as neat and untiring in their pains to accomplish this great object as any people on earth. Although their butter is good and brings the highest price in London market, yet it is not of the best quality, and never brings within five or six cents the pound of the highest price of our very best butter, nor do I believe they make much,

if any, of the very best butter in England. Of this, however, I do not pretend to know, and only speak from facts that I have witnessed in the market, as a dealer and maker of butter. Last season when butter was very high, there were large quantities imported. At that time nearly all the steam vessels, purchased in the New-York market, of our best butter for their own use, not only for their out, but return voyages—whilst we were exporting Southern Ohio, Indiana and Illinois butter, not worth more than half in our markets. If the English make the best of butter, the Holland butter would not bring the very highest price in the London market, any more than in New-York.

The Holland butter brings in our Southern market the highest price, as none of the very best Dairies are shipped to Charleston, Savannah or New Orleans; as there is a great demand in New-York for all of the best quality of butter made, and room for more. To make this butter you must churn all the milk, as well as cream, and churn it before it sours, as the sour or rancid taste in the cream can never be eradicated from the butter. A horse is the best of all animals to churn, and no matter if he churns six hours, as the milk should be churned sufficiently cool, which should be tested by a thermometer, to have the butter come solid.

Firkins, before butter is put into them, should be soaked in strong brine, then filled with sweet hay and hot water, and be allowed to stand until the water is cooled. When the firkin is filled, put a cloth all over the top, cover it over and keep it well covered with a brine made of salt, salt-petre and loaf sugar, until it is sent to market. When you have done all this, procure a tryer, and before sending to market, try every package, and if, at any time, your cows have eaten any roots, cabbage, or anything else they should not, you will find it in the butter. Go to market with your butter, and sell it yourself, and take your wife along, as she is the best judge; as ladies rarely smoke or chew tobacco, and no man that does either, can detect the finer flavor of the *meer* qualities. Thousands of men and women have lived and died in good dairy countries, and never tasted a first-rate article of butter in their lives.

I said, go to market with your butter, yourselves, and secure a customer; if your butter stands the test, you will not have to go the next season. The factor who handled it the last year, will be anxious to buy your butter again, as he has his customers who do not regard the price, if the butter exactly suits; and the last year's butter, if good, establishes your character as a butter-maker, and will enable you to obtain a penny or two a pound over last year's prices.

North Western Pomological Convention.

The next Annual Meeting of this Association will be held at Burlington, Iowa, commencing on the last Tuesday (the 26th) of Sept. at 10 o'clock, A. M., and continuing four days.

Communications are solicited on any or all branches of Horticulture, which, together with any boxes of specimens, may be directed to the "N. W. Pomological Convention, care of Messrs. Aver., Burlington, Iowa."

F. K. PHENIX, Cor. Secy.

Our western pomological friends have already exhibited, at their previous sessions, a great deal of energy and enterprise, and an amount of maturity both in the knowledge and the successful culture of fruit, more especially of apples, that would do credit to the best pomologists of the whole country. No one, therefore, even at the far east, need fear any disappointment from undertaking a long journey, to visit this convention; and we know that contributions of rare or valuable specimens of fruits will be appreciated.

The Season, Crops, &c.

Mr. TUCKER—I forward you a few lines, respecting our crops, and weather, taking it for granted that you are anxious to learn how affairs prosper among us.

Well, we have had, all summer, and now have *drouth, drouth*. We have had but little rain since the eclipse, on the 26th of May. To be sure, we have had occasional sprinkles, but there has not enough rain fallen at one time to wet the soil, more than a half an inch in depth. The wheat crop, which is now harvested, and suffered but little from the insects, was much lighter, in consequence of the drouth, than it would have been, if there had been more rain. On the whole, the wheat crop is considered very light. Although there are many very good pieces of oats and barley, it is estimated that there will be but little, if any more than half of an ordinary yield, on account of the drouth. Indeed, there are many fields, of both oats and barley, the straw of which is so short, that it is very difficult to gather it with a cradle; and after it is eradled, it is almost impossible to rake it at all clean, because it is so short.

Corn, we fear, will be a complete failure. Hundreds of acres have been plowed under, and buckwheat sowed where it stood; and serious apprehensions are entertained, that buckwheat will be *nothing at all*, should it come up, which it has not done in a great many instances. I have about five acres of corn, the soil for which was prepared in the best manner, and highly manured, with barn-yard manure, and top dressed, and I do not expect to have a *single bushel* of corn on the whole piece. While some of it never came up at all, some is six inches in height, and some six feet. But the best of it gives little evidence of fructification. There has not enough rain fallen to slack the lumps or to wet the manure. Ashes and gypsum, that were applied as top dressing, six weeks ago, remain undissolved. And I discovered yesterday, kernels of corn in the hill, unrotted.

It extorts a sigh to look at our pastures, and meadows. Most meadows look as barren as they do in the middle of winter. But few farmers got more than half a tun per acre. Pastures are all drying up;—and the first idea, as we look at them is, *how fire would rush over them!* Should this weather continue a little longer, all our stock must be fed at the barn. The first and last words among neighbors are, “what shall we do for pasture, and what are we going to do for water, for our cattle?” Were you to go through the town, and inquire how much the dry weather has damaged each farmer, the answer would be, according to the size of the farm, from \$50 to \$500. It is no uncommon thing to hear farmers, who own about one hundred acres of land, say that the present drouth has damaged their crops from one to three hundred dollars.

How futile are all our science, our judicious management, our thorough preparation of the soil, and our most efficient fertilizers, if our bountiful Benefactor does not send refreshing showers in due time. Truly yours, S. EDWARDS TODD. Lake Ridge, Tomp's Co. N. Y.

Remedy for Wheat-Weevil.

In answer to a recent inquiry, we gave it as our opinion that one of the most promising means of avoiding the weevil, was to sow early wheat on good soil, that it might advance towards maturity soon enough to escape the depredations of this insect. Since making this suggestion, we have conversed with a skilful farmer of Western New-York, who lives in the midst of a fine wheat region, (where the soil is rather light and gravelly, but usually produces excellent wheat,) and who has given it as his opinion that the severe weather of spring added to the attacks of the insect, has reduced the crop in this region to an average of *ten bushels per acre*, or one half the usual average, which is estimated at twenty bushels. He has just cut a field of the finest wheat, that has yielded over *thirty bushels per acre*, and a single weevil was scarcely to be found in any part. This crop was put in just at the close of summer—very early—on ground prepared as follows: A pasture possessing a fair amount of fertility, was well plowed with a double team, and a good dressing of well rotted or compost manure spread over the inverted sod. It was then thoroughly harrowed, to break it fine, and to mix it with the soil—an operation of great importance. The whole was then turned under with a gang-plow, without disturbing the inverted sod. The wheat was then sown with a drilling machine. The soil was rather gravelly, not liable to become water-soaked, and none of the crop was winter-killed. This gentleman gives it as his opinion that wheat put into the very best soil prepared in the best manner, and sown as early as the last of summer, need excite no apprehensions of the weevil—he thinks it will be quite safe. Other wheat, which he harvested this year from ground last year in corn, was half destroyed, and he intends to raise none but in the thorough manner above described.

Salt for the "Grub."

Several agricultural papers have recommended the broadcast application of a few bushels of *salt* per acre, as an efficient means of destroying or repelling the grub and cut worm. A late number of the American Farmer gives the report of an intelligent and enterprising farmer on this subject, as follows:—His corn-ground, previously clover and grass, was found “literally filled with grub and cut worms.” He applied 2 bushels of packer's salt, and 2 bushels of plaster well mixed, per acre. The insects were destroyed, and the corn saved. Now, this quantity of salt, when dissolved into the soil, would not constitute a *ten thousandth part*—can it be that so minute a portion actually destroyed the insects? Was not their absence owing to some other cause? We have formerly applied salt in a dense circle around the stems of cabbage plants, to exclude the grub, but have found that he did not hesitate to crawl through the pure salt, and after destroying the plant and having filled himself, we have in some instances found him very coolly and quietly reposing in the salt, apparently without the slightest inconvenience. It strikes us that we need further experiments on this subject.

Adulteration of Concentrated Manures.

Every man must know by a moment's reflection, that when such high-priced manures as sell for fifty dollars per ton, are in active demand, there is a prodigious temptation on the part of every dishonest dealer, to sell adulterated mixtures, if he can save by such a miserable operation some twenty dollars or more per ton. The market in England for guano and superphosphate of lime, has lately been more than exhausted, and this has brought into requisition all the different modes of adulteration that ingenious rascality could suggest. If fraud *has* generally prevailed in England, we do not see why it *may not* also prevail in equally honest America, and we feel bound therefore to put farmers and purchasers on their guard,—especially against those who keep their processes secret, by placing "*no admittance*," even to scientific editors, over their door.

Prof. WAY has recently published several analyses of adulterated guano, showing the nature of the frauds practiced. It appears that a favorite ingredient for this purpose is gypsum, because, like guano, it burns whiter, and becomes lighter in weight, and consequently is not easily detected. Some specimens in market were found to contain more than fifty per cent of this ingredient. Scoundrels of a bolder stamp resort directly to the sand and loam pit. Two years ago, and possibly at the present time, there existed an organized factory near London, with drying stoves, reverberatory furnaces, and grinding mills, for the sole purpose of drying, pulverizing, and preparing loam for the use of the guano manufacturer, where it might be had of every variety and of all shades of color. Prof. WAY found some specimens of marketed guano to contain about 50 per cent of sand and clay, besides considerable portions of gypsum—some of these guanos being found with but little over one per cent of ammonia, while the best Peruvian article contains over 17 per cent.

The scarcity of guano in England has run the price up to thirteen to fourteen pounds per ton, or over sixty to nearly seventy dollars; and farmers in our own country have for some time past had to pay fifty dollars. It will do no harm to be on their guard, in relation to this as well as other marketed manures. Honest dealers will not fear investigation, but will rejoice in it. The price is "eternal vigilance" and fifty dollars besides, but the outlay often pays well.

How to Destroy Yellow Dock.

MESSRS. EDITORS—It seems that the yellow dock is troublesome in other localities as well as here. An inquiry in a late number of the COUNTRY GENTLEMAN, how to exterminate them, has attracted my attention. It is about twelve years since they made their appearance in my fields; at first I paid but little attention to them, for they did not increase fast; but after getting the seed into the manure they began to multiply rapidly, and in making some effort to subdue them I found they spread and propagated from the root as

well as the seed. I began to feel alarmed, for they were becoming very numerous in all my grass lands, and how to get rid of them I did not know, but formed a resolution three years ago to wage a war of extermination in some way.

I sent to an ag. ware-house in Boston, and purchased a pair of stiff heavy plate subsoil spades, 16 inches in length; I ground down the lower edge sharp, and after the haying season was over, put two men at work in the fields, cutting them off from 6 to 10 inches below the surface, and then pulling up the part of the root thus separated with the fingers, and after letting them lay upon the ground until wilted, gathered them up and put them into a pile on the side of the highway. I employed these men for the most part of three weeks in this operation, and gathered a large quantity of these roots which have rotted down on the roadside, and they have never appeared above the surface where they were cut in the ground. Some small ones escaped the eye of the workers, and seed was in the hay of that year, so that I must repeat the operation this year, but there is not one now where there were five before I cut them three years ago.

I believe if they are cut off 6 inches below the surface, pulled up and removed from the field, it will stop them; they will not sprout or vegetate from the part of the root left in the soil. The part left is too far below warmth, light and air to start into life anew.

I have written these few lines that your inquirer may try the experiment if he chooses. It has answered a good purpose with me, and I think all farmers should be prompt to impart their experience whenever and wherever it is required and may prove an advantage to others.

This root is said to possess medicinal qualities, and is often sought after by botanical doctors, or as some would say "professional quacks," but as they flourish only in a rich soil, and take possession of our best lands, we can hardly afford to suffer them to remain for this purpose. J. W. COLBURN. Springfield, Vt. July 19, 1854.

Fruit Growing in Canada.

MESSRS. EDs.—I am trying hard to cultivate fruit in $44\frac{1}{2}$ ° north, which I find to be a difficult thing to accomplish. I have 70 varieties of apples; many of them were lost last winter by the cold. I should like to get instruction in regard to this evil that I have to contend with. I have not raised much fruit to boast of, but I have an Isabella grapevine that I am proud of. In the spring of 1851, I planted a slip of the vine, that is three years last spring, and it now stands on the trellis with one hundred and twenty-one fine stems of grapes. I am on the south shore of the Rideau Lake where it is six miles wide, which keeps off the frost two or three weeks in the fall. My peach and nectarine trees are dead. I have twenty varieties of the sweet cherries; some trees grow middling well; others die. I think they can't grow in this country and do well. I have pear trees on the quince, that are now well loaded with fruit; others that I think will fail. I should be pleased to learn if there are any varieties of pears that will do well as far north as this. W. H. SHERWOOD. Portland, C. W.

CURE for GAPES—DORKINGS with YELLOW LEGS.

MR. EDITOR—Of course you know every thing; for, do you not publish a newspaper?

From the ocean of knowledge, may I ask for one little drop? In return I will tell your readers how to cure gapes in chickens.

CURE.—Perhaps you will call my prescription Irish, for I shall say do not let them get sick; and, as it is quite practicable, I think it excellent Yankee, if not perfectly good English.

Some of our hens run at large, have access to pure water when they please, and having a wide range, are usually fed but once a day; others are kept in coops, each hen having from fifteen to thirty chickens; and are fed regularly three times a day with a mixture of Indian meal with wheat bran, potatoes, sour curd, or any thing that happens to be convenient;—we have discovered no difference in the effect of food. Two or three times a day their dishes, of tin or iron, are well rinsed and supplied with clean water; the coops are moved their width, or more, once or twice a day.

Last year we had about ninety chickens; this year, about one hundred and fifty; except upon the list of killed by casualties, or caught by vermin, we have to report the loss of only three; which occurred last year, in the following manner. During a sudden illness in the family, the chickens were only so far inquired after, as to ascertain that they had food and water by them; at the end of three or four days, three were dead or dying with the gapes, more were badly affected, and all (twenty-five) were drooping and sickly. The coop was moved several rods, a drop of spirits of turpentine was put into the windpipe of two or three of the worst cases, their usual habits resumed, and in a short time they were all as bright and cheerful as ever. We have not had a case of gapes since.

Now for my question;—May not Dorking fowls have yellow legs? Some of your correspondents say they *must* be white. Among my schoolday recollections, is the image of

“An old white hen with yellow legs,
That laid her master many eggs.”

which was immortalized by the poet for her discretion in declining to walk out one bright moonlight evening with the agreeable and gentlemanly Mr. Reynard;—she has ever been my beau ideal of a perfect hen; and the impression was doubtless strengthened by seeing my mother invariably prefer such for the table. When some of my own beautiful white Dorkings appeared, supported upon golden pedestals, provided with the requisite number of toes, I smoothed their little downy heads, with more than ordinary satisfaction, and considered them quite the aristocracy of the brood. Am I now to be told that they are therefore not Dorkings? I have even thought of writing a book upon poultry, so as to be deemed authority, but unfortunately, I must say (just under my breath of course,) that I have nothing else to put in it, for I do not know a Shanghai from a Cochin China;—so in my perplexity, Mr. Editor, I appeal to you, and if it has never been permit-

ted before, do grant a dispensation to Dorking fowls, to wear yellow legs. *ALLA DU PAYS.*

Our correspondent, to whom we are already indebted for several very interesting communications, will please accept our thanks for the above account of her experience in the poultry yard. We should be glad to return the favor by solving her problem, but a consultation held in our library, shows so much disagreement on this subject among the doctors, that rather than take the attitude of umpire ourselves, we beg leave to refer to the Editor of *The Poultry Chronicle* for a solution of the difficulty.

Meanwhile will not more of our own poultry fanciers and breeders let us hear from them on the different matters connected with fowl raising and its accessories?

Raising Corn for Fodder.

MESSRS EDITORS—I read your article on “Sowing Corn for Fodder,” in the July Cultivator, with considerable interest, but I have a mode of raising it differing slightly from yours. It is this: Sow in drills one and a half feet apart at the rate of about four bushels to the acre, and when just up sow on the rows plenty of plaster, (say three or four bushels to the acre.) When six or eight inches high, run through it with a small corn plow or cultivator, made very narrow. Commence cutting to feed green, every alternate row, when about two or three feet high, and get over the field by the time the corn is four feet high if possible; then turn and cut out rows two feet wide cross wise.

The advantage of this method is, that, (if the soil is rich,) we will have left on the ground all that can stand up, and will have all that is cut up clear gain, which is several tons. I think an acre will produce nearly twice as much in this way as to have the rows three feet apart in the first place.

I wish some of your correspondents would weigh the product of an acre, and communicate the result to the public through the Cultivator. I believe it would astonish all who have not tried the experiment. I sowed mine this year on the 17th of May, and from some experiments in cutting and weighing, I believe I have places in my field that would, if weighed now (July 10th) green, amount to near 60 tons to the acre. W., Oswego, July 10th, 1854.

GROUND HAY.—Every intelligent person knows the advantage of ground grain and chopped hay for animals, assisting, as the operation does, the finer mastication of the food by the animal, and consequently securing the digestion of a larger amount of the nutriment. The question arises, are there not instances where still greater advantages may be gained by a finer pulverization of food? A writer in the Germantown Telegraph thinks that *ground hay* will possess sufficient advantages over the crude material, to repay well the expense. Whether any thing more than chopping it exceedingly short, (say the thirtieth of an inch) will be useful, is of course entirely conjectural at present, but would not a set of experiments on this subject be well worthy of trial?

The Flower Garden.

SUMMER FLOWERS.

The Tiger Flower.

One of the finest,—most showy, and brilliant flowers that ever bloomed in a garden, is the Mexican Tiger Flower—a plant which has been known many years to cultivators, and which, but for one difficulty, would now be as common as roses and tulips. This difficulty is the tender character of the bulb, rendering it necessary to take it up on the approach of winter, and preserve it like the root of the dahlia.

The Tiger flower has the eminent advantage over many other bulbous flowers of blooming for two or three months in succession, after most other flowers are gone, or throughout the latter half of summer and early part of autumn. The flowers open in the morning and fade before evening; yet a constant succession on the stem keeps up a continued supply. Any good soil will answer for this plant, but the size and beauty will be much augmented by planting it in a bed made on purpose, of equal parts of manure and white sand.

As a touch of frost will destroy the bulbs, they may be kept through winter by first drying them two or three days, and then, after cutting off the tops, by packing them in a box of dry sand, which may be kept on a shelf in a moderately dry cellar, or in a greenhouse.

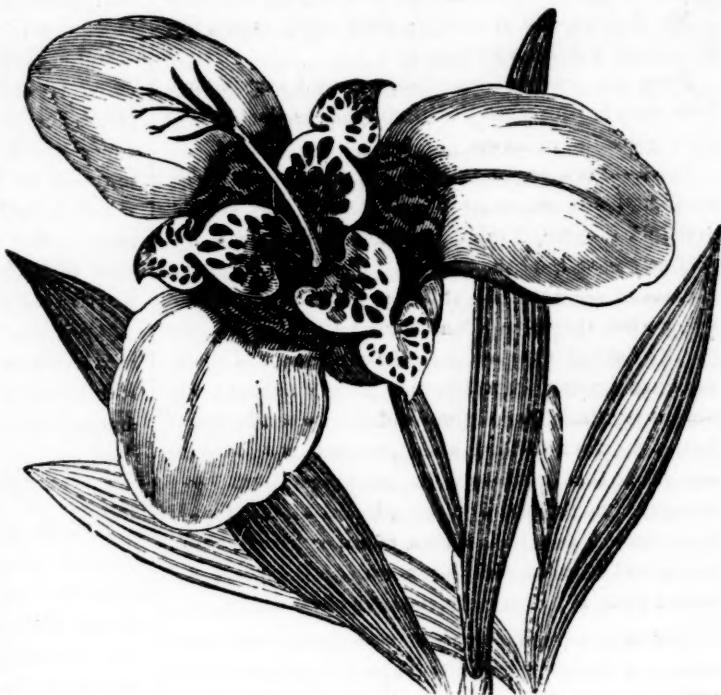
There are two distinct species of this plant,—the red, or *Tigridia paronia*, which is of a rich orange crimson; and the yellow, or *T. conchiflora*, which has a rich yellow color—both these species being spotted with rich purple and dark crimson in the bottom of the cups.

FINE SEEDLING PETUNIAS.

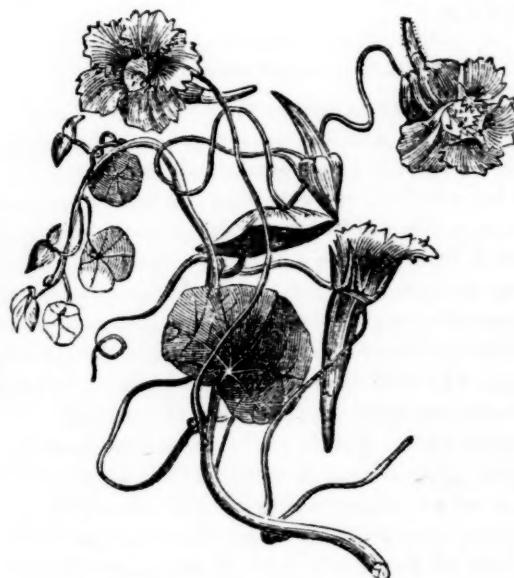
MESSRS. EDITORS—Last year, when making up my flower garden, I procured four varieties of petunias, the finest I could obtain, viz., North London, Enchantress, Prince of Wales and Duke of Bedford; these were planted in a row about two feet apart, and were suffered to bloom and ripen their seed all summer. Last spring many hundreds of young plants came up from the seeds scattered the summer before; of these I selected the finest and most promising, and transplanted them into a bed of good rich garden mould in hopes of obtaining one or two fine specimens by this process of natural hybridization, and my hopes in this respect have been more than realized. I have now ten new varieties, much finer than any I have ever before seen. Imagine a bed of fine healthy plants some of them already forming masses two feet across, and covered with flowers two and a half inches in diameter; some pure white; others with the most delicate tints of rose, lilac, purple and crimson; and these again edged and veined with colors still deeper

and richer; and as beautiful in form as in color, some being in the form of a large bell, others like an elegantly folded turban; altogether making a display of beauty and variety such as is seldom seen in any collection.

Many of the smaller varieties are also very beautiful, being of various shades of rose and lilac, and richly veined with carmine, lake or purple. One in particular is of a pale lilac, veined with dark indigo, almost black. I need not speak of the exquisite enjoyment derived from watching the development of these beautiful flowers. Let your readers try the experiment. N. STONE. Oswego, July 20th, 1854.



THE TIGER FLOWER.



TROPEOLUM LOBBIANUM.

The above figure is a representation of a new

climbing *Nasturtium*, (*Tropeolum Lobbianum*), a South American plant. It bears brilliant orange-scarlet flowers, which continue to appear in succession. It succeeds best where one-year plants are set out in open border early in summer.

Mildew on Grapes.

MESSRS. EDITORS—Can you inform me why grape vines trained on the ground, are less liable to mildew than those trained on elevated frames? Is it the nitre gathering under them, (as under all buildings,) or is it something else? An answer is respectfully solicited as it may assist me in experiments I am now trying. L. O. CROSS. *Sandy Hill, Washington Co. N. Y.* July 15, 1854.

The fact, above stated, is well known to the cultivators of the foreign grape in open air, but they are divided in opinion as to the cause—some ascribing it to the soil dashed by up rains, others to the mixture of the earth, others again to reflection, &c. A few varied and repeated experiments, numerous enough to escape accidentals, would doubtless settle the point.

White Raspberry.

Does the white smooth-cane raspberry need covering in winter? C. N. B.

If by the "smooth-cane," our correspondent means the raspberry known sometimes as the *White American*,—a yellow raspberry resembling the American Black, except in color, we can state that we have always found it perfectly hardy.

PROTECTING VINES FROM BUGS.

MESSRS. EDITORS—Seeing an inquiry in your periodical, how to keep bugs from vines, I will give my experience.

First, I wait in spring until the ground is warm enough to promote vegetation, before planting, that there may be no stinting, taking good care to have several broods of chickens out in season to attend to the plants as soon as they appear above ground. They are placed in the vine-yard with a hen to brood and call them in at night; and thus I make my bugs and worms a source of profit, and very conveniently as you would have been constrained to acknowledge if you had breakfasted with me on a broiled chicken taken from 150 I have on hand. This may come too late for this season's practice, but it is worth remembering till another year. A. WALKER. *Oneida, N. Y.*

STRIKING CUTTINGS.

The following are half a dozen general rules relative to the selection and preparation of slips or cuttings. 1st. Let all slips be cut off as near a joint as possible without injuring it. 2d. For autumn or winter make choice of well ripened firm wood. 3d. In spring or summer half ripened young shoots are best, as they strike quicker than old wood. 4th. All succulents, such as *Caetuses*, *Geraniums*, &c., should remain a few days to dry, until their wounds are closed up, before they are potted. 5th. Never allow cuttings to remain in water; if they cannot be planted immediately lay the ends in moist sand. 6th. In winter or summer always let a few of the leaves remain on evergreens. *Gard's Chronicle.*

Gooseberry Mildew.

When many remedies are proposed for an evil, it usually happens that the remedies are incomplete, and the evil serious and hard to remove. It is however desirable to obtain all the information at hand in such cases, and with this view, we copy the remedy for gooseberry mildew given in the *American Agriculturist*, adopted by R. T. HAINES, a skilful cultivator residing at Elizabethtown, N. J.

The favorite variety we found cultivated here, is Woodward's Whitesmith; and we never saw bushes more loaded with fruit, even in old England. It was also plump and fair, and quite free from the mildew. Mr. HAINES' remedy for this, is to remove the earth from around the roots, thickly mulch with salt meadow hay, and then cover it with the earth. He has tried many other methods of keeping off the mildew, but this is the only one which has been generally successful.

Sowing Grass at Midsummer.

MESSRS. EDs.—Can you inform me whether, after the grass is off the ground, by sowing timothy or clover seed soon after, the grass will be matured so as to be fit to cut next summer? In other words, can I cut the grass and make into hay next July, by putting in the seed this or next month? By giving information you will oblige. PETER WILSON. *Versailles, N. Y.*

The great difficulty in sowing grass seed at the time named, is the uncertainty as to dry or moist weather. Clover and timothy, sowed late in summer, and harrowed in, will do well, provided the weather at that time, and through autumn, happens to prove unusually and uniformly moist. If dry, the labor and seed will be lost. We have sown and harrowed in timothy, during the early part of moist autumns, and had a fine growth of meadow grass from it the next season, but not equal to second-year crops. We would not recommend the trial with clover, but think there is a reasonable prospect of success with timothy. Sown early in spring, on rich ground, and with triple the usual amount of both kinds of seed, we have obtained the same season a crop of grass as large as many farmers do the second year with ordinary sowing.

More about the Wheat Insect.

The wheat crop in the north part of our state (Ohio) is effectually used up by an insect called the weevil, but I should think that it must be some other destroying insect from the manner it attacks the wheat. It commences as soon as the head begins to form, and destroy it by sucking up the juices, and not by eating the kernel. There is a lamentable ignorance existing among farmers in regard to the habits of the various flies, worms and insects they have to contend with in raising both wheat and corn, and which I for one would be very glad to remedy if I knew where to get a work of reliability on Entomology, and if you know of such a treatise you would confer a great favor on me and perhaps many others by recommending it in the Gentleman, with the address of seller, price, &c. JOSEPH S. RUSSELL. *Lyme, O.*

Plan of Farm Buildings for Animals.

In no department of rural architecture are we more deficient than in plans of farm buildings. If a well arranged dwelling, to secure comfort, convenience, and a saving of unnecessary steps, is a matter of high importance to the female members of the farmer's family,—equally important is a proper arrangement of the farmery to avoid a waste of labor, space, food and manure, in the necessary attendance upon domestic animals, and to secure their cleanliness and comfort in the best manner. We have seen nothing for a long time, in relation to this subject, that pleases us so well as the plan of the newly erected and extensive stables of CHARLES B. CALVERT, president of the Maryland Agricultural Society, as published in a late number of the American Farmer. Although the extent of these is far beyond the usual wants of farmers, yet the plan possesses the advantage of admitting reduction in size, without altering its essential features, according to the requirements of more limited stock raisers and cultivators. In small establishments, the outer range of stalls may be entirely omitted.

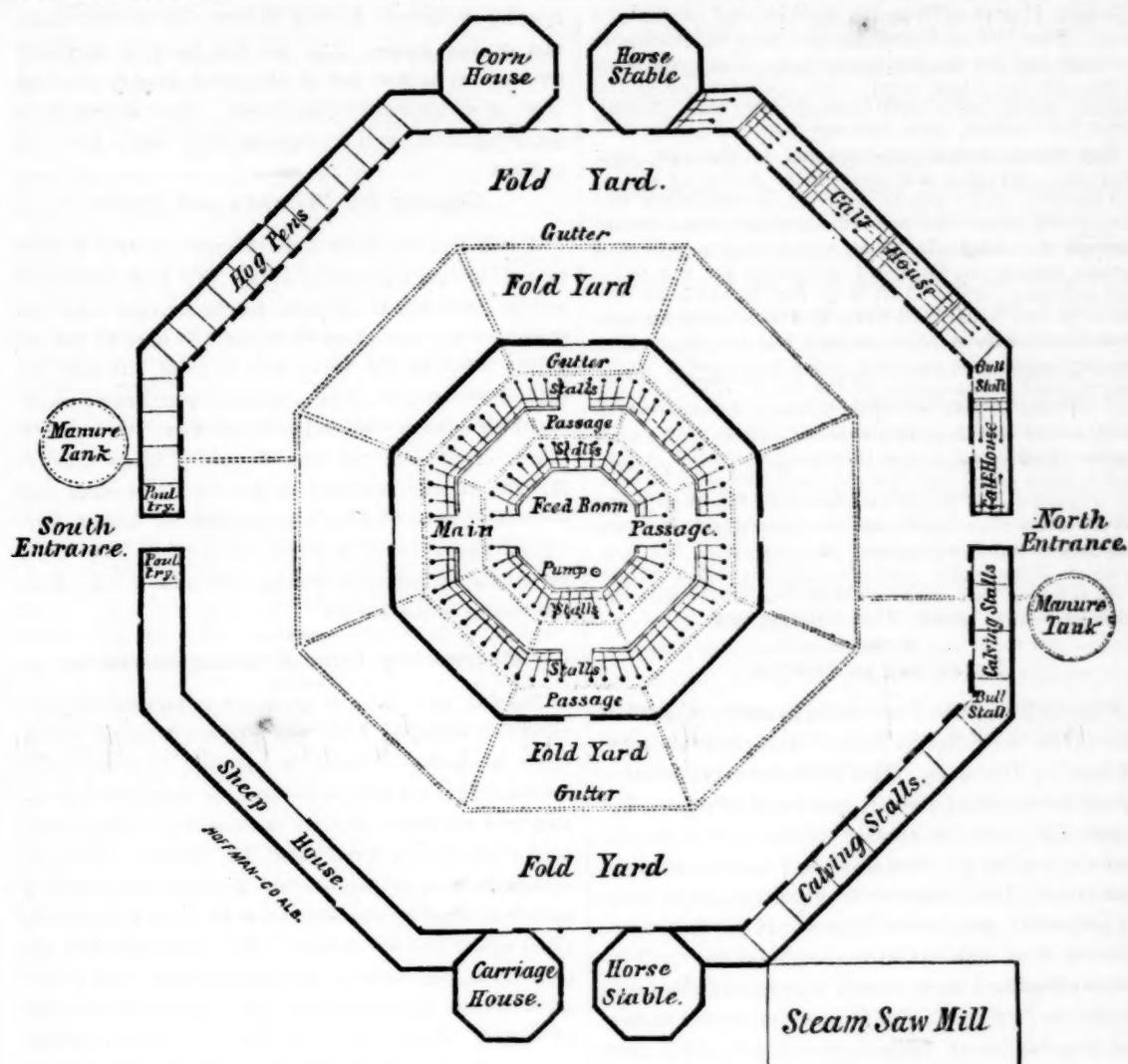
The following description is in the proprietor's own words, and shows much experience and sound judgment in relation to keeping stock and saving manure; the remarks, especially, on the subject of *manure-collars*, and on the formation of compost heaps *on the spot where they are needed for application*, are well worthy of notice, and accord with our own observation and experience, and with the remarks we have already made in this journal.

GENTLEMEN:—As you have been appointed by the Maryland State Agricultural Society to examine and report upon the Essays and Plans which may be submitted for the premium offered by said society, "for the best Essay on the most approved plan of Farm Buildings," I venture to offer for your consideration the plan and description of some lately erected for my own use.

The nature of such buildings, will depend greatly upon the system of cultivation on the farm, and I therefore beg leave to say, that these are intended for a dairy, stock, grass and grain farm. Having a very large dairy of cows, I have appropriated the main building for the accommodation of one hundred and four cows, and a large feed room on the lower floor, and the upper story for hay, grain, straw, &c. In order to explain more fully the whole arrangement of the buildings, and their connection with each other, I refer you to the draughts which accompany this communication. By examining these draughts you will observe a large fold yard, sixty feet wide, separating the main building from the others, and I think this will be found very convenient, as all of the buildings open into it and form themselves the whole enclosure. The buildings on the outside of this yard, are a corn house, carriage house, two horse stables, calf house, poultry houses, sheep house, hog pens, stalls for cows having calves, bull stalls, &c. Through the centre of the yard you will find a gutter, which is intended to convey the water and liquid manure from the premises into two large tanks on the outside of the outer range of buildings. This drain receives all the water and liquid manure from the main building, by gutters passing out at each of the eight corners of the same. The main building is an octagon, one hundred feet in diameter, and two stories high, with a glass dome twenty feet in diameter, on the top for ventilation and

light. The lower story having a large entrance door, and two windows on each of the eight sides, is devoted to two ranges of cow stalls, with passages behind each eight feet wide, and a large feed room 36 feet in diameter in the center. In order to form the stalls for the cattle, a sill is placed two feet from the outer side of the feed room, and the space between this sill and the feed room, makes a trough of that width, which opens into the feed room, so that the inner range of cows are fed without leaving the room. The cows are confined in stanchions fastened in this sill and a plate above, which I consider far better than any other mode on account of economy, security and cleanliness. It is more economical because it is easily made by placing two uprights, one and a half inches thick and 4 or 5 inches wide, into mortices made in the sill 6 inches apart; one of the uprights is made fast in the sill and also in the plate, and the other is confined in a mortice in the sill, but is made to play back and forth in the plate in order to let the cow's head in and out. On the top of the stationary upright, above the plate, is fastened a piece of board, working on a pivot, with a mortice cut into it to fit the top of the moveable standard, or upright, and after the cow has put her head in between the two, the top of the moveable upright is pushed towards the stationary one until it comes under the mortice in the board above, which then falls over the upright and confines the animal securely. It is also more economical, because there is no necessity for stalls, and the same space will accommodate more animals by this mode of fastening than any other. It is more secure, because it is almost impossible for an animal to get loose after she is once fastened, and there is no danger of injury from getting entangled in the stall. It is more cleanly, because the cows always stand a certain distance from the stanchions, and throw their voidings into the gutter below.

Six feet from the sill into which the stanchions are fixed, and on the outside of the same, is placed another sill, fastened to short posts, put in the ground, and the space between these two sills is the platform, on which the cows stand. This platform is raised some 5 or 6 inches above the passage, behind the same, so that the cows when they lie down, cannot lie in the manure which falls in the passage. The platform is formed entirely of clay, except about one foot in width, where the cows' hind feet stand, which is paved with brick to pass off freely the urine, &c., and it should have a little inclination outwards. The passage behind the cows is eight feet wide, which enables a cart to pass around to take away the manure, litter the cattle, and also feed the second range of cows, as their troughs open into the passage of the first row. This passage is paved with brick, and has an inclination towards the platform, next to which a shallow gutter is formed, which conveys the liquid manure to the drains, which run out of the building at each of the eight corners. The outer range for cattle is made precisely after the plan of the inner one. From the inside of the feed room, you pass up a stairway into the second story, which is of the same dimensions, except the 20 feet in the center under the dome, which is left open for light and ventilation. On the second story immediately over this opening, I propose to erect a stationary horse power of thirty feet diameter, which will not obstruct the light or ventilation, except to a very small extent, and by means of a line of shafting running through the building, all the grain may be threshed, cleaned and ground, the hay cut or packed, the corn stalks cut and ground, the corn shelled, roots cut up, and anything else done that requires horse power. Such a power is far preferable to the ordinary moveable ones, which require much more power to put in motion, and then will not do near the work, besides the many difficulties in keeping them in repair. The advantages of this barn are that, from its shape and arrangements, more animals can be attended to by the same amount of labor than in one differently constructed. Its construction admits of better ventilation, draining, and light-



Ground Plan of Mr. Calver's Farm Buildings.

ing, than any other, and that the same amount of accommodation cannot be obtained for the same amount of cost from any other shape. All the liquid manure passes immediately into the tanks, which are sufficiently removed from the buildings to prevent any injurious effects upon the animals. While on this part of the subject I cannot refrain from expressing my abhorrence of the plan which I have seen highly recommended in certain *high* quarters, of having cellars under barns to receive all the manure, and at the same time converting these cellars into hog pens, thereby forcing one of our most valuable animals not only to lie and live in his own filth, but actually to live upon the filth of other animals, and I have often thought that those who recommend such an abominable practice, might be taught better by being for a short time themselves subjected to a similar process.

One of the great errors in buildings for animals as well as man, has been the want of proper ventilation, and there is no doubt that many of the diseases, to which they are subject, have been principally owing to this cause, and it is most strange that, in this improving age, any one should recommend such a filthy practice, as the one of having all the manure placed immediately under the animals.

In regard to the proper saving of manure, I believe that the system at present coming into use in England, of throwing it all in large tanks or vats, and diluting it with water, and then forcing it over the farm through pipes, to be the best and most economical as a perma-

nent system, because the expenses of pipes, pumps, &c, will in a few years be exceeded by the daily, monthly, and yearly expenses of hauling it upon the land by carts. I contend that at the present price of guano, and its great effect on our lands, we cannot afford to haul stable manure more than half a mile, because the mere cost of hauling is as great as the cost of an amount of guano, which will produce an equal if not superior effect, and it is therefore necessary to use the stable manure near the place of manufacture. If however it is determined to form compost heaps, by mixing the stable manure with earth and other substances, I would advise that it be hauled from the stable every day to the field where the compost is to be applied, and the heaps formed there, as by this method great economy of time and labor is effected. It will be perceived, by an examination of the draught of the ground plan of these buildings, that they are all very conveniently arranged with regard to one another, and the same buildings may be used for different purposes according to the wants of the farm. The buildings on the outer range, can have, if it be necessary, a yard very conveniently attached to each. The superintendent's house is located about one hundred feet from the main entrance, and therefore the whole establishment comes immediately under his observation.

Since the commencement of this Essay, I have erected a building sixty by twenty-six feet, on the outside of the fold yard, and running partly along the east line of the same, which is intended for a steam saw,

grist and plaster mill; and a machine and carpenter's shop. Twenty-four feet of the building is three stories high and the residue two stories. The lower story is cut into the side of a hill, and is co-occupied by the engine, boiler, cross cut, circular saw, and planing mill.

The second story is appropriated to the saw mill, grist mill, and other machinery to be driven by steam, and the third story will be occupied as a machine and carpenter's shop. A row of shafting will extend through the whole building, with drums or pulleys of various sizes to suit the speed necessary for the different machines, and a shaft will also be extended into the large cow house, and barn, to drive threshing machines, root, corn stalk, straw and hay cutters, and by this means save the necessity of the horse power I propose to erect in the centre of the barn. The exhaust pipe of the engine will pass through a large steam chest, where food may be steamed for stock. A steam engine of sufficient power threshes grain much better than a horse power, because regular speed may be kept up, regardless of slight obstructions; but with horse power, if the straw gets tangled or any slight obstruction passes into the thresher, the impetus of the machine is diminished, and consequently more or less grain is left in the straw until the machine again regains its regular speed. CHAS. B. CALVERT.

Scratches in Horses.

MESSRS EDITORS—I beg leave to send you another remedy for scratches in horses. I apply a plaster of All-healing Ointment. This ointment is composed of 8 parts by weight of oxygen, and 1 of hydrogen. But you needn't take the trouble to compound it, for our kind Creator has provided it at our hands in unlimited abundance. It is deeply to be regretted that its healing properties are so little known. It is a better application than man has ever invented or ever will invent for healing human as well as brute maladies both internal and external. But it is so simple and natural that men can't have faith in it. Every thing must have some *art* and *mystery* about it to obtain favor. Try this All-healing Ointment, gentlemen. It is cheap and easily applied. I have tried it and it works like a charm. C. N. B.

The free use of our correspondent's prescription [*water* we suppose] will at least promote cleanliness in men and animals, while doctors disagree as to its further effect in the removal of disease.

Staggers in Horses.

Sometimes horses are taken with stiffness in their limbs to such an extent as to cause them to sway and stagger about just like a drunken man. They do not seem to suffer any pain; they do not groan nor breathe quick; their ears and legs are neither cold nor hot, and neither dung nor urine show anything wrong. This disease is ascribed to a sympathetic derangement of the brain, depending on disorder of the stomach, occasioned by feeding for some time on indigestible food, such as rape, rye-grass, or ripe grass seed of any kind. The disease is almost entirely confined to the time of year when ripe grasses are most freely eaten. Several horses on one farm, have been affected at once. It comes on, sometimes gradually and sometimes suddenly. The treatment consists in giving a dose of

opening medicine, feeding on bran for several days, and giving tonics. The old diet must be carefully avoided, as no cure can be effected so long as the food is given which caused the disease. Some horses have got completely well by turning them into a bare old pasture.

Gas-tar for Wounds and Sores.

A writer in the Mark Lane Express of July 3, says that all having the care of sheep, will find the above article very useful for sore heads, or cuts with the shears, or any raw place whatever. It may be put on with a brush in the same way as paint. It may be rubbed over two or three times, so as to have a coating thick enough to exclude air and flies. Underneath this artificial seal, the wound usually heals rapidly. Mr. Mixon, who recommends gas-tar for wounds and sores in Sheep, (why not also in sores on horses, cattle &c?) says that it is better than pitch, tar, black brim-tone, or anything that he had ever tried. It is also useful to mark with.

Degeneracy from Breeding in-and-in.

The fact that animals of all kinds become degenerate from breeding from two parents between which there is affinity of blood, is one that is pretty well known. It is not always however attended to in practice, else we would not have witnessed the degenerate lambs which we have seen this spring. Through thoughtlessness or carelessness a neighboring flock of ewes was sired by the same buck which had been with them before for two seasons. He sired, therefore, his own lambs, and perhaps, his lambs' lambs. The owner knew better and intended to have procured a change of bucks; but in some way the result above stated happened. The result was a number of very weakly and deformed and idiot-looking lambs. Some were so weak in the hind legs that they could not support their own weight; and some had their hind legs twist outwards when they attempted to walk. One lived several days, but breathed quick and short all the time, and had to be assisted about nursing. One was coarse woolled almost as a water-dog, and looked very stupid and idiotic. Such results seem worthy of being put on record as a warning against like carelessness or neglect in others.

Lice on Cattle or Horses.

MESSRS. EDITORS—I have tried snuff, and snuff and lard melted together, leached ashes, fine sand, &c. but I think the most effectual remedy is to take one pound of tobacco, (injured or refuse stems will do,) to three grown animals, and cover the tobacco with water, and let it stand forty-eight hours in a warm room in winter, or in the sunshine in summer; then wet the animal thoroughly; then again in five or six days, and the vermin will be scarce.

Horses often learn to be unruly by rubbing the fences down while lousy.

It has been said that tobacco will sicken an animal, but I have not seen any injurious effects from its use; if it did sicken a little, it would still be better to kill the lice.

Perhaps the reason why tobacco juice is more effectual than some of the other articles mentioned, is that it can be more thoroughly applied to every part, and no vermin can escape. W. Oswego.

Mechanical Conveyance of Manures.

Manure is as necessary to successful farming as the engine to a steamship, or as fuel to a locomotive; and the amount of discussion on the economy of saving the materials and manufacture of manures, shows that their importance is well understood by intelligent cultivators. There is one part of their management and application, however, that seems in a great measure to have been overlooked, or at least underrated, and this is the saving of *mechanical labor* in its conveyance, while preparing and applying it.

Drawing manure is one of the heaviest and most costly of farm operations. The farmer who draws twenty loads of wheat, or thirty tons of hay, laborious as this may seem, performs but a small task in comparison with what he should yearly accomplish in the conveyance of manure; for every farm of one hundred acres will yield at least two hundred loads of the best manure if properly managed, and some may be made to double nearly this amount. Hence it is no wonder that we often see huge piles of this life-element of farming, wasting in barn yards through the summer unapplied.

But the farmer who makes manure in the ordinary imperfect manner, that is, by merely casting out into his yard the cleanings of stables mixed with the litter, added to the droppings of the cattle running at large, obtains but a small quantity in comparison with the skilful manager, who saves every thing by a large admixture of absorbents. If then, the more scanty heap occasions too great a labor to draw out and apply, how important it becomes that the most careful management be devised, to economise as much as possible the cost of handling and carting the increased accumulations of the most improved process.

On small farms, where the fields to which the manure is applied lie quite near the barn-yard, it may do to manufacture the compost heap in the stable-yard. But in most cases this will be a most expensive practice. The largest amount and the best manure must be made by not only collecting all the solid droppings mixed with the straw or litter, with the liquid portions saved and added, but a large portion of peat, turf, loam, and other similar absorbents of a more solid character should enter largely into its composition. Now, to cart a hundred loads of turf into the barn-yard from a remote part of the farm, and then to draw all this heavy bulk back again into the fields, is causing a vast amount of labor. Again,—the shovelling over and mixing of the compost heap, which is practiced with so much advantage by Europeans, cannot be thought of for a moment by our farmers who pay the present high wages. The intermixture resulting from drawing and spreading the heap, may generally be sufficient, but a more thorough execution of this work would be better.

The question therefore occurs, How may this labor of conveyance be reduced as much as possible?

We have found a most important means of saving labor, by forming the compost heap in the field where

the manure will be required. Loam and turf are absolutely essential for the absorption and retention of the ammonia. Large quantities of turf may be obtained from fence corners, where otherwise it would be of little or no use; but on large farms, the more mucky portions of pastures may be obtained at less labor, by first plowing the sod. Let the manure from the yard, as it accumulates, be drawn out and spread a few inches in thickness, in a long and narrow strip, say from a few feet to a rod in width according to its quantity, and then be covered with a layer of turf (or loam) at least equally thick. A second layer of manure is applied and a second layer of turf until gradually during the season, a height of some two feet has been attained. If the successive alternating layers have been thin, a great deal of subsequent intermixing will not be necessary, and this may be easily and cheaply accomplished by the use of a large plow attached to a yoke of oxen, beginning at the sides of the heap and plowing down successive slices of the mixture, using the harrow between each plowing, until a most thorough pulverization is accomplished. This may now be drawn off and spread from the cart or wagon in an even and perfect manner, being entirely free from lumps. Such a material as this is admirably fitted for preparing wheat land.

A western farmer keeps his yard perfectly clear of stable accumulations by drawing out every morning a wagon load when the team goes out to plow or to other work. This practice is pursued more particularly during the times of spring and fall plowing. In summer but little accumulates; and in winter there is little difficulty in keeping the coast clear. During the sharp frosts of winter, however, a difficulty exists in consequence of the earth being frozen and incapable of being applied in successive layers. Those who are so fortunate as to possess a drained muck or peat swamp, may draw from it without hindrance any time of the year; but others may secure a supply of turf by the plan lately mentioned in the *Country Gentleman*, namely, plowing up a turf or mucky pasture early in autumn, and piling the sods when dry like cords of wood, under a large coarse shed made for the purpose. These will become so free from moisture as to be easily used any time during winter. But in the absence of either of these provisions, an imperfect substitute may be found in spreading a layer of old straw, chip dirt, &c., upon the manure.

This mode of forming the heap in the field possesses two especial advantages. The stable yard is at all times kept clear of those accumulations, which are never any ornament to the establishment, and which in wet and muddy weather are a serious inconvenience; and the manure being nearly accessible to the land requiring its application, it is drawn on and spread without that large consumption of time usually required at the exceedingly busy season of preparing for crops.

One of the largest and best farmers in the country, whose stables are arranged in an octagon, with the

animals' heads towards the feeding room in the centre, saves a vast amount of labor by a covered cart way running round the whole, by means of which the stable cleanings are shovelled immediately into the passing cart, and drawn at once to the field without a single transfer or reloading; and it would prove of great advantage in all cases could the same provision be made for carting off the accumulations of stables without the labor of wheeling them first out into the yard, except in those instances already named where the fields are closely contiguous, and the materials for compost are as easily accessible here as at other parts of the farm.

We are by no means confident that we have pointed out the best mode for accomplishing the great saving needed in this laborious farm-process, but if we have afforded suggestions for further improvements, an important end will be attained.

Agriculture of the Sandwich Islands.

We give the following extract of a letter from a subscriber, dated East Maui, May 25, 1854:

The growing of wheat has been entered into with consideraale spirit this year, in this immediate vicinity, and the crop bids fair to be a fine one. Harvesting has already commenced, and what is peculiar to *this country*, I think, will continue for nearly three months, the climate admiting of sowing wheat from the first of December to the last of March. The crop will amount this year to about 25,000 bushels; and from the fact that there is a flour mill at Honolulu ready for operation; the present and prospective high price of flour, and the success of this year's crops, the next season's sowing will be quadruple that of this.

The soil and climate seem admirably adapted to the growing of wheat. There is now good wheat growing on land, where five or six crops have been raised in succession without any dressing. A fine growth on land that produced last year from 25 to 30 bushels per acre, and this land had been cropped with sugar cane for ten years. On new land I have seen this year wheat 6½ feet high, and whole fields averaging more than five feet.

The elevation at which wheat is grown is from 1500 to 3000 feet above the level of the sea. The soil is decomposed lava in some parts, and in others the lava is mingled with volcanic cinders and ashes, also some vegetable matter. The temperature varies from 50° to 84° Farh.

It is believed that after the present harvest the Islands will not import much bread-stuff.

The labor saving machines of the U. States are being introduced here. One of Hussey's Reapers is here for the present harvest, and another on the way. A one-horse-power overshot Thresher of Emery's manufacture, a two-horse-power Thresher of Whitman's make are here, and another of Whitman's on the way.

"The Cultivator" gives much satisfaction to those who take it. The information it gives in relation to agricultural implements is important to those of us,

who, though we live in these ends of the earth, are interested in agriculture, and consequently anxious to hear of the most improved implements of husbandry, and the best manner of cultivating the soil.

Can you inform me through the Cultivator whether any grain sower, for sowing broadcast is in use to any extent in the U. States, and if so whose patent, and where such an implement can be had? JOHN S. GOWER.

C. H. SEYMOUR, East-Bloomfield, N. Y., manufactures a broadcast sowing machine, which has been pretty extensively used, and has, so far as we know, given satisfaction. It can be used for all kinds of seeds—also for lime, plaster, poudrette, guano, &c.—EES.

Book Farming—Indian Corn.

MESSRS EDITORS—I noticed a communication in No. 2, Vol. 4, *Country Gentleman*, from B. B., on "Book Farming—Indian Corn," in which he complains, and seems to cast censure on the editor of the Cultivator, and some one else who had written on the subject of tilling and curing Indian corn, for recommending a course, which in his case resulted in a heavy loss. The writer says—"had I been governed by my own common sense view of the matter, I would have rejected the author's reasoning, and let my corn alone. Common sense says that grain will not perfect itself if cut before fully ripe." Now I would not set myself up against one so well versed in such matters, and especially after having been taught the lesson of which he speaks, but would say I dissent from some of the conclusions to which the writer of said article has arrived. First, that grain will not perfect itself, if cut before fully ripe—I say grain, because I wish to speak of other grain as well as Indian corn. My experience has taught me that barley will weigh more if cut before fully ripe, than if left to stand till dead ripe. I once commenced cutting a piece of barley while some of the kernels were quite soft, and was obliged to leave a part for two or three days, and when harvested it did not weigh as much by three lbs. to the bushel, and besides the color was so changed as to hurt it for malting. It used to be the custom to always cut our barley before fully ripe if we wished good weight and color.

I know that in respect to cutting up corn, there is some difference of opinion; but the experience of more than twenty years has confirmed me in the opinion that, taking all things into consideration, it is best to cut corn before thoroughly ripe. Once I had a piece of corn in just the state which he says his was,—stalks perfectly green, and the corn fairly glazed, and the day was such as to predict a severe frost at night; and thinking I might as well lose some of the corn as all the fodder, I went with what help I could get, and cut the piece that day, and the result was that I never had sounder or brighter corn in my life. As the season will soon be along for cutting and curing corn, I will give my method of procedure, which may serve

to guide some one in a course which has always done well in my case.

When the corn has so far ripened as to have the husk turn a little yellow and begin to loosen from the ear, and while the stalk and leaves are yet green, I cut and stack five rows in a row of stacks. Tie two hills together on the third row, and make good sized stacks, for they are less likely to get down; wind well with three bands, and it will stand till winter without taking hurt and the stalks will make excellent fodder; besides it cleans the ground well for the next crop.

One reason for writing this article is, to give the experience of one who is looking for light, and wants the experience of others in every thing that pertains to the science of agriculture. And to the agricultural press I would say, give us light. L. A. BROWN.
West Haven Ct.

Lime as a Fertilizer.

No soil possesses fertility in a high degree unless it contains lime in a very considerable proportion. Excess can be no otherwise than hurtful, else there would be no occasion to name it excess; and so too of deficiency. But these can hardly ever be determined by chemical analysis, but only by trial, as the quantity of lime which can be usefully applied depends on what other constituents are present in the soil.

Lime in an uncompounded state, seems to be less used now than formerly. It seems questionable, however, whether or not recourse to a dressing of lime occasionally would not prove advantageous. The amount of lime annually removed from the soil by a course of cropping must be restored in some way or another. When all the grain, straw, hay and roots, grown on a field, are removed away from it, there must be quite an amount of lime less in the soil than before. On clay soils, upon the texture of which lime produces a specially favorable effect, this diminution of the amount of lime cannot be restored, probably, in any better or *cheaper* way than by the simple article itself, rather than by sulphate or phosphate or super-phosphate, or any other compound of lime. Neither wheat, nor barley, nor oats, nor clover, can be raised in perfection without a suitable supply of lime in the soil. It is needed to give strength to the straw, to prevent lodging, and to make the berry perfect. It is essential to the healthy growth of clover, as also of potatoes, turnips, and perhaps other roots.

The sulphate of lime or gypsum, which has been so extensively found useful as a fertilizer, usually contains in a hundred parts, forty-six parts of sulphuric acid, thirty-three parts of lime, and twenty-two parts of water. This compound of lime, before it becomes soluble, requires about five hundred parts of water to be added. It cannot very soon be useful, therefore, in a state of solution. And as to its power of fixing ammonia, there are doubts uttered of late, and a wide difference of opinion exists. From the results which have been reported of the application of sulphuric acid mixed with water, as a manure or fertilizer, we are inclined to think that a good share of the beneficial

effects of gypsum is to be attributed to the evolution and action of the acid upon the constituents of the soil which afford nutriment to the crop to which the gypsum is applied, or to the succeeding one.

And if rightly informed as to the composition of another professed compound of lime, a celebrated superphosphate, we would ascribe a large amount of its good effects, when it has any, to the sulphuric acid which enters into its composition. A considerable share of the good effects of this highly puffed article, is also owing, probably, to the carbonaceous matter which it contains. For charcoal or carbon is useful on almost all soils. And this superphosphate is said to contain a large amount of charcoal and sulphuric acid, and a small amount of guano. *

Coal-Tar on Lime Mortar.

MESSRS. EDs.—Will you inform me through *The Cultivator*, how coal tar, spread on lime plaster of an inch in thickness, instead of on cloth or strong paper, will answer for flat roofs? We use no sand, but a large proportion of clay to the lime in our plaster, which renders it cheap, and as it will not warp nor shrink, I do not see why it would not make a good roofing. If used, should the plaster be dried before applying the coal tar, and what quantity of tar per hundred feet, would it require. If you, or any of your correspondents, can inform us whether this has ever been tried, or what objections you have to it, you will much oblige by informing us.

Please also inform me whether lime that will bear 5 or 6 times its quantity of sand, for plaster, will be proportionably superior as a fertilizer, to lime that will bear but once its quantity. A SUBSCRIBER. Ryegate, Vt.

We are not aware that the experiment has received a full trial—perhaps some of our correspondents may inform us. If the coal-tar will shut out completely all moisture, the coating may stand—provided also expansion and contraction of the boards do not cause cracking. If, however, moisture enters the composition, the first winter will split it to fragments.

A little impurity in lime may unfit it for the best cement; but not injure it, but even possibly benefit it as manure, if this impurity happen to be a fertilizing substance. Hence lime for building and for enriching the soil, are not, *of necessity*, correspondingly valuable.

Twin Calves—White Carrots.

MESSRS. EDITORS—I wish to ask a few questions through the columns of the Coun. Gent. Is it true that twin heifers will not produce young?

Will the white carrot produce abortion in cows? I find both of these opinions prevail here to some extent. C. N. B.

The opinion that twin-heifers will not produce young, probably originated from the fact that “*free-martins*” (heifers born as twins with a bull calf,) are often defective in organization, as Hunter proved by dissection, and consequently will not bear,—although frequently no such defect exists. But we have never heard that when both the twins are heifers, any difficulty whatever has been found.

We do not believe the white carrot will produce abortion—unless by injudicious feeding—as we never knew any difficulty of this kind, after considerable experience with it.

Horticultural Department.

Summer Pears.

To the list of summer pears figured and described a few weeks since, we add the following:

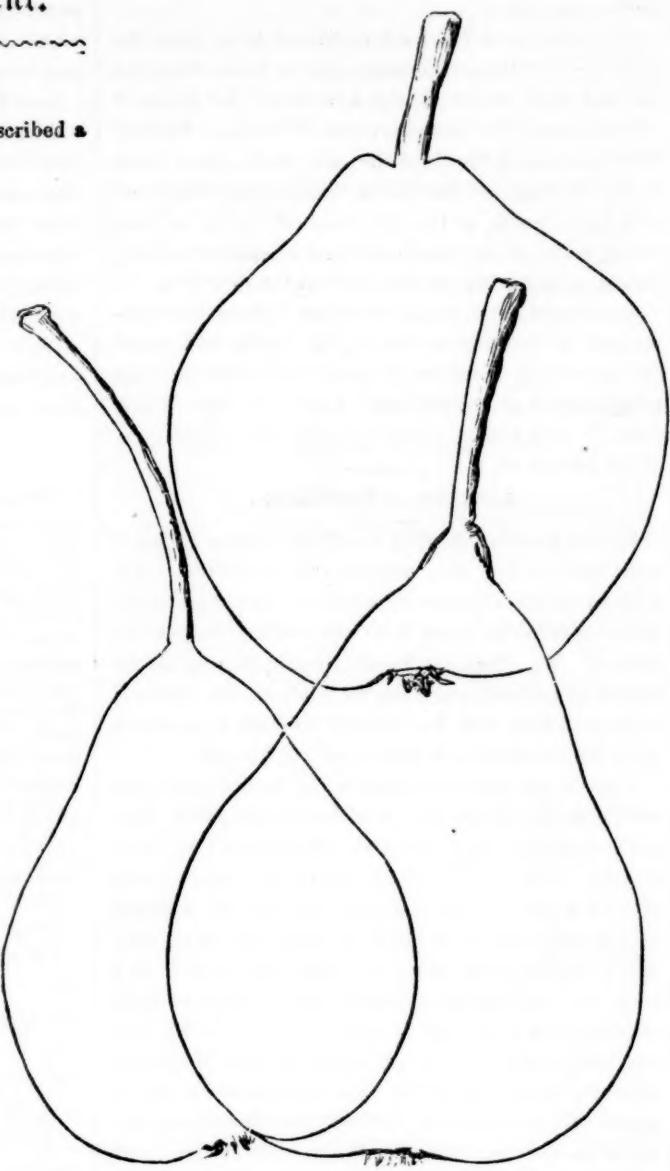
ROSTIEZER.—This late summer pear, on account of its exceedingly rich and perfumed flavor, in connexion with its small size, bears the same relation to summer pears that the Seckel does to autumn varieties. Unlike the Seckel, however, it is a free flower, and usually succeeds well on the quince. The Rostiezer is rather small in size, obovate-pyriform, regular; the skin is dull brownish green, with a dark, dull, reddish brown cheek when exposed to the sun, with some traces of thin russet; stalk long and slender; flesh juicy, melting, sweet, with a high, excellent, perfumed flavor. The young shoots become dark purple. A European variety, not extensively known.

TYSON.—For a combination of high flavor, melting texture, good size, and the free growth of the tree there is no summer pear that exceeds or even equals the Tyson. The young trees are long in coming into bearing, which is its only drawback. It grows vigorously, however, on the quince, and the dwarf trees bear sooner. In size it is full medium, being about as large as the Virgalieu; it is obovate-pyriform, or nearly obconic; the skin is bright yellow, with a reddish brown, softly shaded cheek, and often some russet; the stalk is rather large, inserted in a small fleshy prominence which is abruptly contracted from the rounded neck; the flesh is of fine texture, buttery, very melting, juicy, with a sweet aromatic, slightly perfumed, excellent flavor. The shoots are erect, dark reddish brown, with a vigorous growth. An American variety, ripening late in summer.

SUMMER FRANKREAL.—This is an older sort, and although not standing so high in character as the two preceding, still possesses several valuable qualities. It is one of the best varieties for successful culture on the quince, and indeed it should be grown on no other stock, as this gives decidedly the best flavor to the fruit. Its size is medium; form short-obovate, with a slight obtuse neck, the body tapering a little to the eye; skin pale yellowish green, sometimes with a faint blush; calyx closed, basin furrowed; flesh white, fine grained, buttery, melting, rich and "very good," or nearly first-rate in quality. It ripens late in summer. The shoots and leaves have an unusually downy appearance.

The Cumberland Co. (N. J.) Ag. Society will hold their first fair in Bridgeton on the 28th September.

Summer Frankreal.



Rostiezer. Tyson.

CALIFORNIA LETTUCE—Either their lettuce or their stories are very large in California. S. W. SEGER states in the *California Farmer* that he has raised a head of lettuce, of the early head variety, as closely packed as a drumhead cabbage, *two feet in diameter*.

DESTROYING GREEN APHIS.—B. SNYDER, of Rhinebeck, N.Y. informs the Am. Agriculturist, that he has very successfully destroyed the green aphid on his young apple trees, by dipping the affected branches in a vessel containing strong soap-suds, in which the young shoots of the Ailanthus have been bruised, so as to make an infusion. He considers the Ailanthus the chief agent, from its well-known offensive odor. We have been equally successful with the soap-suds without the Ailanthus, and the probability is that the latter is of no essential use. It is not nearly so offensive and poisonous as tobacco, no infusion of which has any effect, the strongest decoction being necessary to affect the aphides.

Stump Machines.

The following account of some of the simpler machines for the extraction of stumps from fields, occurs in Thomas' new treatise on the principles of Farm Implements, under the head of the application of the lever to practical purposes:—

A simple contrivance for allowing a succession of efforts in the use of the lever is represented in the accompanying figure (Fig. 1), and is used for tearing

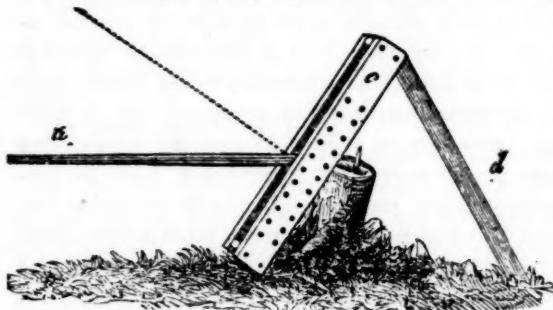


Fig. 1.

out the roots of partly decayed stumps. It may be also applied to lifting heavy weights, and to various other purposes. Two pieces of strong, three inch white-oak plank, eight inches wide and seven feet long, are connected at the ends, and are furnished with the movable leg, *d*. Two rows of holes are bored through them, to receive iron pins, which are to serve as fulcrums. A strong lever, *a*, is furnished at one end with a thick iron hook (shown in Fig. 2,) which is first fastened on the root of the stump, and then one of the pins is inserted under the lever. The lever is now elevated, and the other bolt is placed under it. It is next pressed down, and the first bolt elevated one hole higher, and so on till the stump is torn out. To prevent



Fig. 2.

the lever slipping, a notch is made on its under side, on each side of the hook, as shown in Fig. 2.

A more powerful stump-extracting machine, made on precisely the same principle, is exhibited by Figure 3. The lever, *a*, should be a strong stick of timber, furnished with three massive iron hooks, secured by bolts passing through, as represented in the figure. Small or truck wheels are placed at each end of the lever, merely for the purpose of moving it easily over the ground. The stump *b*, used as a fulcrum, has the chain passing round near its base, while another chain passes over the top of the stump, *c*, to be torn out. A horse is attached to the lever at *d*, and moving to *e*, draws the other end of the lever backward, and loosens the stump; while in this position another chain is made to connect *g* to *h*, and the horse is turned about, and draws the lever backward to *i*, which still further increases the loosening; a few repetitions of this alternating process tears out the stump. Very strong chains are requisite for this purpose. Large stumps may require an additional horse or a yoke of oxen. Where the stumps are remote from each other, iron rods with hooks may be used to connect the chains.

The power which may be given to this and to all other modes of using the lever, as we have already seen, depends on the difference between the length of its two arms. A yoke of oxen, drawing with a force of 500 pounds on the long arm of a lever 25 feet long, will exert a force on the short arm of six inches equal

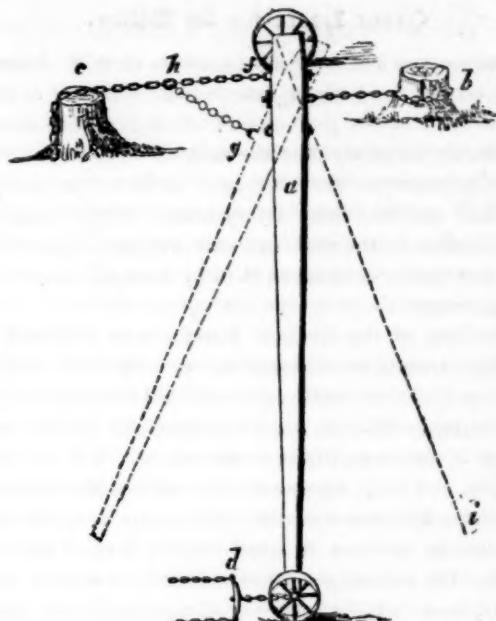


Fig. 3.

to 50 times 500 pounds, or 25,000 pounds, on the stump.

It was after an examination of the great power which may be given to the lever by increasing this difference, that Archimedes exultingly exclaimed, "Give me but a fulcrum whereon to place my lever, and I will move the earth!" Admitting the *theoretical* truth of this exclamation, and supposing there could be a lever which he might have used for this purpose, its practical impossibility may be quickly understood by computing the whole bulk of the globe; for such is its enormous size and cubical contents, that Archimedes must have moved forward his lever with the strength of a hundred pounds and the swiftness of a cannon ball for eight hundred million years to have moved the earth the thousandth part of an inch!

Ketchum's Mower.

EDS. OF THE COUNTRY GENTLEMAN—On taking up your paper of this date, the first thing that struck my eye, was the strictures on Ketchum's Mower, on page 56. Having myself been engaged in operating one of these mowers, this afternoon, on the farm of R. P. WATERS, Esq., of Beverly, and having repeatedly seen the operation of one of them on the farm of Wm. SUTTON, Esq., of Salem, I think I can speak with some confidence of the manner in which the work was done. Both these gentlemen assured me that one acre of grass, yielding two tons, could be cut in one hour, and that a well trained team would cut four or five acres in half a day. I have never seen grass handsomer mowed and spread than by the machine on Mr. Water's farm. If your correspondent could witness work done by it, as I have repeatedly seen it, I think he would feel that justice demanded of him, to speak of its good qualities, as well as to point out its faults. It certainly mows much better over uneven ground, and even over fast stones, than I thought it possible for any cutting implement to be moved. I am pleased with its operation, and have no doubt it will be so perfected as to come into general use. I have the testimony of Mr. J. B. of Andover, who grows as much hay as any other man in this county, and does to much labor in getting it, that the machine works much better than he expected; and he would not be without it for ten times its cost. Very truly yours, J. W. P. Danvers, Mass., July 27, 1854.

Queer Logic for an Editor.

Our readers will recollect the article of S. W. JOHNSON on the analysis of soils, which appeared a few weeks since in this journal, and which furnished overwhelming testimony that the analysis of soils for ordinary practical farming, was at best "a chance game;" and that more injury is done to the cause of true science by the wild and extravagant claims of a few pretenders in its favor, than by the open advocates of ignorance.

Dr. LEE, of the Genesee Farmer who has been a strong advocate of soil-analysis, and who still clings to it as a reliable auxiliary to practical farming with a sort of indefinite hope, has fallen upon this article, and either attempts or affects to criticise it. We say *attempts*, or *affects*, because we are not certain whether he wholly mistakes its intent in the part he quotes, or whether he perverts it merely for the sake of finding fault. We should not allow ourselves to suspect the latter, were not the meaning of the article so very plain as to be quite easily understood by intellects far below what we suppose Dr. Lee to possess. The article of S. W. Johnson very distinctly points out the failures, the disagreements, and the contradictions of several eminent chemists, for the purpose of showing how unreliable their analyses and their reasoning upon it may prove, even where in some cases they may give "closely agreeing results;"—and this very contradiction, so strong against Dr. Lee's favorite theory, he attempts to fasten upon S. W. Johnson himself, to show that he contradicts himself, and that "he is an inexperienced writer thus to present to his readers overwhelming evidence to convict him of gross carelessness, or gross ignorance."!! Verily, this mode of attack is only equalled in ingenuity by the man who when pursued by the sheriff and his posse, escaped by boldly joining in the hue and cry against himself.

Dr. Lee expresses his fear that such articles tend to discourage the establishment of Schools for scientific agriculture, and especially those dependant on State patronage. We cannot conceive how a search after truth is going to injure Science at all. Does scientific agriculture depend on the retention and propagation of old errors? Are farmers likely to fall in love with chemistry by being led in its most uncertain and unreliable paths? Would it not be much better to urge upon them, and upon our legislators of whom we would ask a school, the importance of teaching such parts of improved agriculture as science has thrown a certain and reliable light upon, and more especially such parts as an ENLIGHTENED PRACTICE has established as the best, among which we may briefly name subsoiling, underdraining, irrigation, rotation of crops, composting, horse-cultivation, horse-harvesting, improved-breeding, systematic management, &c., none of which originated directly in science, although science has improved and enforced them.

No greater injury is done the cause of science than extravagant and unfounded claims. It must invariably end in disappointment and disgust. A young farmer

lately informed us that he had lost *seven hundred dollars* by false expectations thus held out to him through the teachings of the Genesee Farmer under the auspices of Dr. Lee. A chemical pretender in the vicinity of New-York, claims to have prescribed from analysis on "hundreds of farms," without a single failure; yet the public have never been furnished with a distinct statement of one of these experiments, detailing kind and quantity, before and after trial, accompanied by such evidence as our agricultural societies require. We sometimes hear of instances, as remote as isles in an ocean, where soil analysis has directly proved advantageous; but if its advocates wish to make any impression on a closely discerning public, they must furnish a *series* of experiments, where its prescriptions have proved *uniformly* or *generally* successful, and where the same result could not have been attained by any practically skilful farmer, who should have the privilege of other chemical knowledge, but without any knowledge of soil analysis.

We much regret that any one should set up false pretensions of the character we have mentioned, because in exposing their fallacy it gives captious persons an apparent opportunity to misrepresent our position; which has indeed been repeatedly done by a few prints of late years, while at the very moment those prints are acting most efficiently the part of real enemies to science, by misrepresenting its offices.

Underdraining.

There are many portions of high ground in the neighborhood of Pittsburg, (Pa.) and along the Monongahela river, remarkable for its productive qualities. For many years past, it has been observed that these high hills, with ordinary cultivation, produce better crops of every kind, and grow superior fruit, to the bottom land in the same region. Many of the farmers would smile if told that the rich qualities of their land might be attributed to underdraining. The idea of draining hills from one hundred to three hundred feet elevation, they would consider ridiculous, from the fact that no swampy or moist land can there exist and instead of attempting to drain it, some invention should be had to retain the moisture. This very invention they have, in the most superior kind of underdraining.

These hills comprise a portion of the coal region of Pennsylvania, and cover most generally two strata of bituminous coal. The first, about from thirty to sixty feet from the upper surface, from four to five feet in thickness; and the second, at the distance of about sixty feet beneath the first, of from five to seven feet in thickness. The first strata, upon account of its depth as well as its quality, is but little worked at the present time, where the second is accessible; and in the immediate neighborhood of Pittsburg where the first "crops out," the second alone is worked. From the quality of this coal, and the great demand for it in all parts of the country, an immense number of tons are annually extracted—completely undermining many acres of surface, forming mammoth underdrains; and

as a number of acres are taken out, the whole hill is let down—not together in one mass, but broken and mangled by the pillars and supports left by the miners. So that when the coal from any one hill is extracted and the pits abandoned, the soil upon its surface will have all the advantages of the best underdraining; and not draining of two or three feet in depth but of from ten to an hundred feet; and the ground being loosened to such a depth it is almost impossible that it should suffer from drought. I have no doubt but this is one of the causes of the great crops on some of our hills.

The drought at this time (July 17th) is truly excessive, not a particle of moisture apparent in the ground to the depth of eighteen inches; and the summer thus far has been so dry as to almost check the entire growth of all kinds of spring crops. The farm I cultivate, consists of about forty acres, all of which, excepting about ten acres, is undermined and underdrained by the taking out of the coal to the depth of from ten to one hundred feet. My crop of hay above the undermining, has averaged over two tons to the acre, while a 'rich bottom' of one of my neighbors, did not produce one half the quantity.

Again, I have planted upon the underdrained portion about three acres of corn: and on the same place below the draining, in a rich garden deeply spaded, there is planted a bed of the same kind of corn. The latter has received careful garden culture, and the former, planted on clover sod, the common field culture. The first looks as if it wanted rain badly, but still has a good color and healthy appearance; but the leaves of the latter, look more like torches or fancy cigars, so closely have they wrapped themselves up than any growing vegetable. The product of hay, as well as the present appearance of the corn, can be partly at least, attributed to the underdraining.

These advantages are still more apparent upon the growing of fruit. Formerly the bottom land was always sought after for gardens and orchards. A few years since an enterprising man fixed upon the top of one of our highest hills, (Mount Washington.) He now brings the first, largest and best fruits to market, and gets the highest price. *His land is undermined*, and I understand he attributes his success greatly to this fact. B. B. Pittsburgh, Pa.

Flax Culture.

The Earl of Albemarle, as President of the Norfolk Agricultural Association, has called the attention of the members of the Association, and of the public, to the consideration of the question, 'How are the Agriculturists of Norfolk (and of England) to be supplied in future at a moderate price, with the necessary articles of linseed and oil-cake, if we continue at war with the chief producing nation of those articles?'

This is a question deserving consideration in England, which imported last year 94,000 tons of flax, of which Russia furnished 64,000, and, also, 63,000 tons of hemp, of which Russia furnished 41,000 tons.

These importations cost, at peace prices, five millions of pounds sterling, and at present war prices, would be of the value of nine millions. Here is a premium on the growth of flax and hemp of four millions sterling. The Earl then proceeds to state other considerations which tend to make it obvious that flax might be advantageously raised at home. Such of these considerations as are as applicable to the condition of things in America as to that in England, we shall submit to our readers with as much succinctness and brevity as possible.

One of the great merits of flax culture, according to the Earl of Albemarle, is the necessity for the exercise of skill in its cultivation. It is therefore a crop better adapted to the present advanced state of agriculture than it was in former times. As the present high prices of wheat and grain cannot always continue the Earl asks if it is not therefore desirable to have a crop that will indemnify the farmer for the occasionally low price of grain. Flax, he thinks is such a crop, being the most remunerative that can well be grown. From various parts of the country he has obtained estimates, according to which the profit of a crop of flax would, at usual prices, be more than double that of a crop of wheat.

Another inducement to the cultivation of flax is this that it would afford increased emp'oyment to persons of both sexes, of all ages, and at all seasons of the year.

As another inducement it is stated that flax will grow on almost every description of soil, and will take its place in any part of a rotation. Sir John Mac Neil, one of the largest cultivators of flax in Ireland, says that, though the soil best adapted for the growth of flax is a deep rich loam, yet he grew 600 acres, in 1853, on almost every description of land. Flax appears to grow best and produces the largest quantity, when sown on land on which oats had grown the previous year, but it is the practice in Armagh and Down to sow it after potatoes or turnips, and sometimes after barley. In every case the land should be exceedingly well cleaned, and free from weeds. The seed should be sown immediately after the land is plowed, as the seed is generally six weeks in the ground before it appears, and will be longer if the ground should have lost the moisture it has when first plowed before being sown. After plowing, the land should be harrowed, then rolled with a heavy roller, then harrowed with a light harrow and the seed sown, and finally rolled with a light roller. When the plants are 3 or 4 inches above the ground, the field should be weeded by children, *against the wind*. The plant should be pulled when the lower leaves appear to be decaying, or getting tinged with yellow. This is a very material point to be attended to, for if allowed to get too ripe the fibre will be injured, and if pulled too green the seed will be injured. The average quantity produced from an acre, in Ireland, may be taken at 2½ tons weighed when dry, or 650 to 750 or 800 lbs. of dressed flax.

Grass seeds and clover may be sown with the flax without any injury to the latter. The land will be very smooth for mowing. Sir J. Mac N. thinks that it is a mistake to suppose that flax injures the land. It may be sown every 4th or 5th year without injury to the land, if the crop is properly weeded.

Ice Houses.

MESSRS EDs.—I wish to build an ice-house, and it has occurred to me that I might make use of some of the spare room in my cellar for the purpose. Being in a stiff clay soil it requires a drain. A window in the north side affords a chance for sliding in the ice. The three stone walls of the cellar would also be so much saved in the construction. If properly lined and filled in with tan or saw-dust would such an ice-house answer its purpose, as well as one constructed by itself in the usual mode? W. H. S. Adrian, Mich.

Ice houses are not unfrequently constructed in cellars, and succeed well if sufficiently capacious, with good non-conducting walls, and with good drainage without the admission of air through the drain-pipes. We have known several good ice-houses situated under carriage houses, shops &c., the ice being well imbedded in saw dust in addition to the usual provision for excluding heat.

Application of Manure.

MESSRS EDITORS.—I would like to be informed when is the best season of the year to apply manure upon grass land—spring or fall? My soil is sandy, though I have applied 50 loads of meadow loam to the acre. A SUBSCRIBER. East Hartford, Ct.

By all means, apply manure to grass lands in autumn—the fall, winter, and spring rains will carry down the soluble parts among the roots, and the plants will have the full benefit at the commencement of their growth. There will be very little evaporation of the manure comparatively, during winter, and the remaining portions become well settled about the plants, and do not hinder their growth. On the other hand, if applied in the spring, the first tendency is to smother and check,—some time elapses before the enriching portions get down among the roots: and the warm weather promotes the escape of the volatile portions of the manure.

Inquiries—Seeding—Destroying Sorrel.

MESSRS EDITORS—Being a subscriber to your valuable paper the "Cultivator," I have taken the liberty as a young farmer to make some inquiries and to ask some advice of those more experienced in cultivating the soil. My farm is a gravelly loam mixed with some sand. One year ago last spring I sowed 16 acres to oats and seeded it to clover and timothy. On that intended for pasture I mixed equal parts, sowing 12 qts. per acre. On that for meadow one third clover, putting on the same amount of seed per acre. One field the seed was bushed in—another rolled in and the third nothing done. There came a pinching drought, and if the seed ever germinated it was killed; and the result this year seen, is fields covered with sorrel, it being natural to the soil. Now I wish to inquire of some practical farmer the cheapest and best mode to pursue with this land to kill out the sorrel and make it produce again. One neighbor says sow lime; another says sow ashes, and a third says mix the two with gypsum or plaster and the sorrel will disappear. But mind you, they do not speak from *experience*—they do not *know*—they *guess*—We want experimental knowledge not guess-work. J. F. B. Unadilla Forks, Otsego Co. N. Y.

United States Agricultural Society.

At a meeting of the Executive Committee of the UNITED STATES AGRICULTURAL SOCIETY, held in the City of Washington, in February last, it was resolved that the Society would hold no Exhibition in any State having a State Agricultural Society, without the assent of the Officers, or of the Executive Committee of such Society.

The citizens of SPRINGFIELD, Ohio, having requested this Society to hold an Exhibition of CATTLE, at that place, during the current year, and generously subscribed about *ten thousand dollars* to defray all the expenses of the same, and to guarantee the Society against loss; and the Executive Committee of the Ohio Agricultural Society uniting in the request, the Executive Committee of this Society have concluded to hold a NATIONAL SHOW OF CATTLE, open to general competition, without sectional limit, on the 25th, 26th and 27th days of OCTOBER next, at SPRINGFIELD, in the State of OHIO.

The friends of Agriculture in all the States of the American Union, and in the neighboring provinces of Canada, are invited to co-operate with us, so that this Exhibition may be the more extensively useful, and be alike creditable to the generous citizens of Springfield, with whom it originated,—to the Contributors and Visitors, who sustain it,—and to the United States Agricultural Society, who are so deeply interested in its success.

In consequence of the holding of this SHOW OF CATTLE, the contemplated Exhibition of HORSES, at Springfield, Mass., and the Show of SHEEP, in Vermont, will be omitted.

The JOURNAL of the SOCIETY, which the Executive Committee have concluded to issue once in each year—four numbers in one,—will appear in January next; and will contain the Transactions of the Society at its last Annual Meeting, the Lectures and Addresses delivered at that time, a full and faithful account of the Springfield Show, with other valuable papers, by eminent members. This volume will be forwarded to all members who have paid their annual assessments for the year 1854.

MARSHALL P. WILDER, PRESIDENT.
WM. S. KING, SECRETARY.

BOSTON, AUGUST, 1, 1854.

Insects and Farming.

I have been a merchant eight years and found it a risky business—have been a farmer two years and find it also risky. We plant our corn and as soon as it makes its appearance we have to fight worms and crows. And here let me say I know from experience that the only way to save a corn field from being devoured by worms is to *dig them out and kill them*. I employed four boys this season and saved four acres by worming. YOURS. J. F. B.

The Queens Co. Ag. Society will hold their next fair at Jamaica, on the 28th Sept.

Notes for the Month.

NEW ADVERTISEMENTS.—The attention of those wishing to import improved stock, is invited to the notice of JAMES DOUGLASS, East Lothian, Scotland. Mr. D. recently shipped to this country quite a lot of superior animals, ordered by H. L. EADES, Esq. for the Shakers of Warren Co., Ohio, and is, we are told, a gentleman in whose integrity and judgment purchasers may safely rely.

We are frequently inquired of for fancy rabbits. It will be seen that Mr. VAN RENNSLAER offers a few pairs for sale, which we know to be genuine.

ADVERTISEMENTS.—We invite attention to several important advertisements in this number. Among them may be found an important notice from the State Ag. Society, setting forth the arrangements for the coming Fair. Breeders of Short Horns are referred to the advertisement of Mr. Strafford who it will be seen, is to sell a lot of young Bulls, on the 5th Sept. containing more or less of the best blood in England. The time is short, and those who wish to purchase should send their orders to Mr Strafford by the first Steamer. For other high bred Short Horns, for sale in this country, see the advertisement of Mr. Rotch, of Otsego, and Mr. TABER of Dutchess—for Sheep and Pigs those of Messrs Wells and J. R. Page. For concentrated Manures, see the advertisements of THOS, HOLLINGWORTH and Son, Utica, LONGETT & GRIFFING, and LODI MANUFACTURING Co., New York.

Those who do not wish to undertake a regular College Course, will find an alternative offered in the SCIENTIFIC SCHOOL connected with Yale College. It is advertised in this week's paper, and merits the attention of all.

IMPORTED SHEEP.—We had the pleasure of examining a fine lot of Lincolnshire Sheep, consisting of eight yearling ewes and two rams, just received per ship Windsor Castle from Liverpool, by JOHN R CHAPMAN, Esq. of Oneida Lake, Madison Co. N Y. They were selected from the flocks of Messrs. Kirkham, Shelby, Topham and Fowler, celebrated breeders of the original long-wooled Lincolns. Although they were over eight weeks on shipboard, they looked remarkably sprightly and healthy, and were a very superior lot. The fleeces taken from these ten sheep last spring weighed 112 lbs. or a trifle over 11 lbs per head. We notice by the last London *Mark Lane Express*, that Mr. Kirkham of whom three of the ewes and one of the Rams above mentioned, were procured, received a prize of \$50. at the show of the Royal Ag. Society, last month, for a pen of five ewes of the improved Lincoln breed.

TRIAL OF REAPERS.—J. S. WRIGHT of Chicago, proprietor of "Atkin's Automaton or Self Raking Reaper," and J. H. MANNY of Rockford, Ill., the inventor of "Manny's convertible Reaper for Grain or Grass," having agreed to a trial of their machines for a prize of \$1,500, and appointed Messrs. M. L. Dunlap,

Hiram Miller, and R. Emerson, Jr. to decide the question, the trial commenced on the 26th July on the farm of David Stockwell, near Belvidere, Ill. and continued five days. The points to be decided were the relative amount of manual labor in "Raking, Binding and Shocking, twenty acres to be cut by each machine. Any loss of grain to be charged to the proper party." The Judges after devoting 5 days assiduous labor to the trial, say—"we find the contest so close and so many excellencies in both Reapers that we are unable to say, under the circumstances, which should have the preference. In some respects one machine has the advantage over the other, and *vice versa*. Which has actually the preference, in all respects, is a matter too nice for us to decide."

The papers announce the death, at Detroit on the 24th July of cholera, of Mr. CHARLES FOX, senior editor of the *Farmer's Companion* published at Detroit, and Lecturer on Agriculture in the University of Michigan. Mr. F. was formerly an Episcopal clergyman, but for some years past has devoted his attention almost exclusively to the study and practice of agriculture. Beside his contributions to the *Farmer's Companion*, and various addresses, he had just issued a work on Agricultural Chemistry.

GALLOWAY CATTLE.—The *Canadian Agriculturist* for July, enumerates quite a list of domestic animals which have just been imported by several public spirited gentlemen of that province, and among them three very fine Galloway cattle, (a bull and two heifers,) brought out by Mr. RODDICK of Hamilton. Among the other importations, are a Durham bull, a pair of Yorkshire pigs, and forty Leicester sheep, by Mr. DICKINSON of Port Hope—a Durham bull and some superior sheep, by Mr. R. WADE, Jr., of Cobourg; and a lot of Leicester sheep by Mr. GEO. MILLER, of Markham.

TALL TIMOTHY.—Mr. BENY. SNYDER of Bethlehem, in this county, has sent us a small bundle of Timothy grass, the stalks of which measure from 4 ft. 6 in. to 4 ft. 9 in. in length.

"TALL CORN."—We make the following extract from a letter of a correspondent in Maryland, merely premising that our statement of the probability of the *Courier* and *Enquirer's* tale, had reference entirely to the story itself, and not to the number of rows of corn in the ear, as detailed therein. "I was sorry to see in a No. of the Co. Gent. that you say the "Tall Corn" tale of the N. Y. *Courier* and *Enquirer*, "may be true." The saying that ears of corn had "twenty-nine" and "thirty-one" rows of grains on them, is saying that the writer knows nothing about corn. The same law which turns a bean vine one way and a hop vine another, says there shall be no odd row on corn, and in writing the tale the writer should have kept probability in view. For some ten or fifteen years I dealt largely in corn (not distilling it.) I have had an ear of corn weighing (on the cob) two and a half pounds, and another ear having 1812 grains on it. Corn is to

the other grains what iron is to the metals, worth *all* the others together."

I might have added *thirty-two* rows are not uncommon on an ear—the earliest corn has least rows.

PREMIUMS ON BABIES.—The American Agriculturist, in publishing the list of premiums offered by the Stark county (Ohio) Ag. Society, for the three "prettiest babies," and also for the "largest and heaviest child" under one year—very justly expresses the importance of a "Scale of Points," on the same principle as those established by the New-York state Agricultural Society for improved stock, & suggesting a marble model for the use of committees, winds up with the interesting and important statement that "if a satisfactory "Scale of Points" and "models" could be adopted by the Agricultural Societies in these matters, the conducting Editors of this journal might be tempted to make an entry for premiums, as each has been blessed the past month with what they consider a pair of "models" of the first order." Now the obvious meaning of this language,—"*each* has been blessed with a *pair*,"—is that the two editors have had *four* children in the aggregate, added to their families within a month—which is so large a story, that we would suggest that it be more distinctly expressed, and perhaps that legal testimony be furnished of so extraordinary a fact, for those who believe nothing without the strongest evidence.

BENEFITS OF UNDER-DRAINING.—The Rural New Yorker gives the results of an experiment made by JOHN CONSTABLE, of Lewis county, N. Y. He had a meadow that annually produced about half a ton of very indifferent hay. Two years ago, he cut some drains through it, three feet deep, and laid them with stones. This year, the meadow produced two and a half tons of excellent hay to the acre.

THOS. BETTS (of Herts, England,) has established an agency, 35 Wall street, New-York, for the importation of thorough bred stock from England. Mr. BETTS has letters from the officers of the Board of Agriculture in Canada, giving assurances that business entrusted to him will receive prompt attention. [See Advertisement.]

THE LARGEST STRAWBERRIES.—A correspondent of the N. Y. *Herald*, having given an account of the famous British Queen strawberries, some $6\frac{1}{2}$ inches in circumference, from California, Q. Q. writes to the editor of that paper that a plate of the same variety was sent to the Massachusetts Horticultural Society Saturday exhibition, the end of last June, two or three of which measured $8\frac{1}{2}$ inches in circumference; they looked like tomatoes, and were raised at the private garden of Saml. G. Gustin, Esq., of the Newark Meadows Nurseries. He adds a certificate from GEO. C. THORBURN, Lodi, N. J., who says "I saw them."

TURNIP-HOEING.—Quite an animated discussion has been carried on, of late, in the columns of the *Mark Lane Express*, on the question of the proper distance

at which turnip plants should be drilled and left at hoeing. Some contend for 9 and some for 11 inches between the plants, the drills being 12 inches apart. Others contend for as much as 18 inches or more between the drills and 18 inches or more also between the plants in the drill. One who advocates this largest space, says that he saw last winter some white turnips on a desk in the Corn Exchange at Bury, three of which would fill a bushel; and he says that he has doubts whether three could be put into an imperial bushel, if furnished with a shut down lid. The general opinion seems to be that the heaviest crops may be gathered when the drills are 12 inches apart, and the plants are set with an 11 or 12 inch hoe, thus leaving the plants about 12 inches apart. When large bulbs are expected from the richness of the soil or on account of special manuring, a larger area is allowed.

BLOODY MILK.—I have a valuable heifer which gives bloody milk from one teat—will some one tell me a cure? J. F. B.

WHEAT DRILL.—(A SUBSCRIBER, St. Clairsville, Ohio.) Placing the drill-tubes unusually near together, as proposed, causes the drill to become clogged with clods, stones, and sods, while no advantage is gained, as the roots at ordinary distances extend and meet each other, and cover the whole surface, and the stalks also fill up the space above ground. Increasing the breadth of the drill, makes it too heavy and hard to draw, and more difficult to fit inequalities of the surface.

WHEELER'S HORSE POWER.—I have had some experience in the use of Horse Powers. Now I would say to your correspondent, M. S. B., by all means purchase one of Wheeler's endless chain powers, and if it does not work to perfection, and fulfil all his expectations and satisfy all his desires, charge it to my account, and I will pay all damages. I consider it the most perfect horse power for a farmer, that can be imagined. A PRACTICAL THRESHER AND FARMER. *Wauwawosa, Wis.*

CHINA TREE, &c.—I wish your correspondents to tell us more about the China tree, describe it, and where it can be had, and how to use it, to expel bots. Your directions to kill Canada thistles are sure—and to kill white daisies, plow them all under when in full bloom, before the seed will grow; and sow one bushel of buckwheat on an acre. I have seen them killed when like a meadow. E. DANIELS. *Catalunk, N. Y.*

FARMING IN CALIFORNIA.—A correspondent of the Pittsburgh *Daily Union*, who dates at Cold Springs, California, says: "This is one of the greatest countries for farming, (or as it is called here "Ranching") under the sun. A man with a good "ranch," in the valley, can make an independent fortune in a few years, not unfrequently in one! The first eleven miles of country we passed through, after leaving Sacramento, was one vast field of either barley or wheat—

the barley being just ready to harvest. A farmer is paid in this State for the labor he spends on a farm: the average yield of wheat, being from sixty to eighty and frequently one hundred bushels per acre. Stock here does not require, as in the "States," to be fed from six to seven months in the year; but keep themselves fat the year around on the pasture.

The thermometer averaged from 90° to 100° in the shade, every day since I came. The atmosphere being so pure, and the air so fresh, that it does not feel oppressively warm at all. We had quite a smart shower of rain this morning, which is a very uncommon thing here at this season."

CROPS IN GREAT BRITAIN.—The *Mark Lane Express* of July 3rd reports very favorably as to the whole of the crops in England. It says: "This we may safely venture to assert, that in the event of our having only a moderate amount of moisture, seasonably warm weather and very few gales, together with an absence of blight, we shall reap one of the most abundant crops on record."

The *North British Agriculturist* (Edinburgh) of July 5th contains returns from all the districts of Scotland, on the state of the crops, from which it appears that taken together, the promise is favorable, particularly in relation to wheat, oats, beans and turnips.

FAIR AT WHEELING.—The *Western Virginian Ag. Society* will hold their next Fair at Wheeling on the 13th, 14th and 15th Sept. Their prize list is large and various, and as it is open to all, the show will undoubtedly be very large as the attendance of many exhibitors from the neighboring counties in Ohio and Pennsylvania, may well be anticipated.

Dutchess Co. Fair, at Washington Hollow, Sept. 24—27.

Horse Powers and Threshers

Of all the most approved kinds—Wheeler's, Westinghouse's and Emery's Railway Powers and Threshers. Taplin's, Bogardus', Palmer's and Eddy's Sweep Powers and Threshers. For sale by LONGETT & GRIFFING, Sept. 1—m3t No. 25 Cliff street, New-York.

SPANISH MERINO SHEEP.

THE subscribers offer for sale 12 Bucks, and 15 Spanish Merino Ewes, at very reasonable prices. A part of the sheep are a cross of the Atwood flock. A rare opportunity is afforded to farmers to improve their flocks at a small expense.

L. S. & L. R. WELLS,
New Britain, Ct. Aug. 17—w1m3t.

Pittsburgh Agricultural Tile Works.

RAINING TILE of the annexed sizes for land drainage, manufactured by James Wardrop & Co., Pittsburgh, Pa.

Horse Shoe Tile.

4½ inch caliber,.....	\$18 per 1000 feet.
3½ do.	15 do
2½ do	12 do
	<i>Sole or Pipe Tile.</i>
4 inch caliber,.....	\$40 per 1000 feet.
3 do	18 do
2 do	12 do

Tile of large size suitable for Drains about Dwellings, Yards, Cisterns, Ice Houses, &c., from \$4 to \$8 per 100 ft. Pamphlets containing all necessary information mailed to applicants, and orders promptly shipped. Samples may be seen at the Seed Warehouse of JAMES WARDROP. Aug. 24—w4tm1t*

YALE SCIENTIFIC SCHOOL.

THE FALL TERM in this Institution, will commence on Wednesday, Sept. 13th, and continue fourteen weeks.

FACULTY.

BENJAMIN SILLIMAN, M.D., LL.D.,

Professor of Mineralogy and Geology

WILLIAM A. NORTON, M.A.,

Professor of Civil Engineering.

JAMES D. DANA, LL.D.,

Silliman Professor of Natural History.

BENJAMIN SILLIMAN, Jr., M.D.,

Professor of General and Applied Chemistry.

JOHN A. PORTER, M.A.,

Professor of Analytical and Agricultural Chemistry.

The object of this School is to fit students for the practical application of the branches taught. For particulars, apply to the Professors in the several Departments, or to

JOHN A. PORTER, Dean of the Faculty, New-Haven, Ct., Aug. 17, 1854—w4tm3t.

Superior Trees—Premium Strawberries, &c.

W R. PRINCE & CO., Flushing, wishing to clear off 50 acres of their Nurseries where the Rail Road passes, will sell their Superior Fruit and Ornamental Trees and Shrubbery, including Evergreens, at very reduced prices in quantity. Also an Unrivalled Collection of Strawberries, Bulbous Flowers, Peonies, &c., at the reduced rates of their Catalogue for 1854-55, which will be sent to applicants. A convenient credit allowed where payment is sure. N. B.—100,000 Pears of all sizes, at low rates Aug. 17—w1m1t.

SHORT-HORN CATTLE.

THE following short-horn and other stock, (all pure bred animals,) were not long since sent out by Mr. ROTCH of Morris, Otsego Co., N. Y. to his farm, situate within one mile of Albion, the county town of Edwards Co., Illinois, and are now for sale, as he is about disposing of the farm.

For further particulars address Col. HUDSON, on the premises.

CUBA—nearly red, with but little white, is a bull, calved Ap'l. 17, 1853—sired by Prophet, dam Coral by Bertram 2d, 3144—g. d. Conquest by Washington 1566—g. g. d. Pansey by Blaize 76—g. g. g. d. Primrose by Charles 127—g. g. g. g. d., by Prince 521—g. g. g. g. g. g. d., by Patriot 486.

Prophet is a grandson of *Yorkshireman* 5700, who was bred by Mr. Thos. Bates. Prophet's dam was *Phænix*—see produce from *Princess*, vol. 5, page 799, of *Coates' Herd Book*, to which all the numbers in these pedigrees refer.

TEA ROSE—A roan cow, calved May 2d, 1848, sired by Westchester—dam White Rose by Splendid 5297—g. d. Yellow Rose by young Denton 963—g. g. d. Arabella by North Star 460—g. g. g. d. Aurora by Comet 155—g. g. g. g. d. by Henry 301—g. g. g. g. d. by Danby 190.

Westchester was by *Yorkshireman* 5700. This Tea Rose is a descendant, on the part of her sire, from the Kirkleavington herd, and has, from her mother, a strain of *Comet* blood.

RAIRIE ROSE—A red heifer calf, from Tea Rose, by Prophet—see pedigree of Tea Rose.

PHEASANT—A red heifer, calved in the spring of 1852, by Prophet—dam Phiox by *Yorkshireman* 5700—g. d. Phoenix by Hero 4020—g. g. d. Princess by Washington 1566—g. g. g. d. Pansey by Blaize 76—g. g. g. d. Primrose by Charles 127—g. g. g. g. g. d. by Blithe Comet 55—g. g. g. g. g. g. d. by Prince—g. g. g. g. g. d. by Patriot 486.

Besides the above there are a few SOUTH DOWN SHEEP and lambs, also some FRENCH MERINOES & POULTRY, all purely bred.

Aug. 17—w1m1t.

GUANO NOTICE.

AS there is a substance now selling by some dealers in this city and Brooklyn, for the No. 1 Peruvian Guano, we caution the agricultural public who may purchase Peruvian Guano this season, to observe that every bag of the genuine article will have the following brand:

NO. 1,

PERUVIAN GUANO,

IMPORTED BY

F. BARREDA BROTHERS.

The price is now established for this season, at \$55 per ton of 2,000 lbs. When taken in lots of five tons and upwards, a discount will be made. LONGETT & GRIFFING, State Agricultural Warehouse, No. 25. Cliff-Street. Aug. 17—w6tm2t

New-York.

SHORT-HORNED CATTLE

FOR SALE.

I HAVE a few choice male and female *Short-Horns* of various ages, to dispose of, at my farm, three miles West of the Harlem R. R. Station, at Dover Plains, N. Y.

My stock has been bred from animals purchased of Geo. Vail, Esq. of Troy, Col. L. G. Morris of Fordham, Mr. Lathrop of Mass., J. Sheaf, Esq. of High Cliff, Dutchess Co., Jas. Lennox, Esq., New-York, and other eminent breeders.

S. T. TABER,

Chestnut Ridge, Dutchess Co., N.Y.

August 10, 1854—w2mt.

A NEW FERTILIZER.

THE LODI MANUFACTURING COMPANY, (who have been manufacturing Poudrette for 14 years,) have, by a recently discovered process, been enabled so completely to disinfect Night Soil, as to present to the Agricultural World that long sought after and greatly to be desired article.

PURE NIGHT SOIL, DISINFECTED AND DRIED.

This article differs from Poudrette, and every other article of manure made from human excrement, from the fact that it contains no mixture of foreign substance whatever. (except 5 per cent. of calcined gypsum, which is used to retain any fugitive ammonia.) the sulphuretted hydrogen which is the offensive gas escaping from Night Soil, is taken from it by a peculiar process. It is, also, entirely separated from rubbish not smaller than a pin's head, and so concentrated, that its bulk is decreased one half by manufacture, yet, at the same time, none of its virtues are allowed to escape. The Lodi Manufacturing Company have selected the Chinese words dessicated night soil, as the name for this article, viz:—

Ta-Feu,

and offer it for sale under the following guarantees:—

1st.—That it is free from unpleasant odor, and contains 95 per cent. of night soil concentrated, and 5 per cent. of calcined gypsum, and nothing else.

2nd.—That it cannot be surpassed by any other manure in the world, either in fertilizing power or in cheapness.

3d.—That it is equal to Guano in the proportion of 4 pounds of Ta-Feu to 3 pounds of Guano. That it is equal to any superphosphate of lime now in market *pound* for *pound* on any crop, and is one-third cheaper than Guano, and twice as cheap as superphosphate.

4th.—It contains every kind of food necessary to the growth of plants, and is perfectly soluble in water, making, therefore, a splendid *top dresser* on grass and grain.

It is perfectly dry, and can be bagged or barrelled, and sent to any part of the United States. Price \$20 per ton, of 2,210 lbs., for any quantity over 10 tons; under that, \$25. No charge will be made for cartage or package.

Persons wishing to try it, can send us any amount, from \$3 upwards, and the exact number of pounds will be forwarded, with directions for use.

We recommend it strongly on cabbage plants, turnips, wheat, grain and grass, either sowed or harrowed in, or as a top dressing, after the grain is up. On cabbages and turnips it has already been tried with astonishing results, having doubled the size of cabbage plants in a week.

For 300 to 500 lbs. per acre will be a first rate dressing for grass in the fall and for grain followed by grass; a tablespoonful is more than sufficient for a cabbage plant.

All communications must be addressed to the
LODI MANUFACTURING COMPANY,
74 Cortlandt St. New-York.

August. 17—w4mt.

Land for Sale.

THE subscriber offers for sale, a portion of his valuable Tract of Land, situated in the county of Fairfax, Virginia, on, and near the Turnpike leading from Georgetown to Leesburg, 16 miles from the city of Washington. 2 miles from the Potomac river and canal, and within 2 miles of the Loudoun, Alexandria, and Hampshire Rail Road. The tract contains about 2000 acres of Land; of which, from 500 to 600 are in a heavy growth of oak and chestnut, and the remainder of the wood land is in pines of the second growth. It is of a deep red soil, and adapted to Grain, Plaster, Clover, and all kinds of Grass. On the premises are 4 comfortable Dwelling-Houses, and also a Grist-Mill, but not in running order. The land will be sold in lots of 100 or 200 acres, or as the purchaser may desire. For further particulars inquire of the subscriber on the premises.

S. S. MILLER,
July 1, 1854—mtf
Spring-Vale, Fairfax Co., Va.

Agricultural Books,

For sale at the office of the Country Gentleman.

Imported Cattle, Horses and Sheep.

THE subscriber has FOR SALE the following first-class SHORT-HORNED CATTLE: BENEDICT, (7s28) got by the celebrated sire Buckingham, (3239) dam, Hawthorn Blossom, by Leonard, (4210). CAPT. BALCO, dark roan, calved April, 1853, got by Balco, (9918) dam Cowslip by Upstart, (9700). VICTOR, white, caimed Nov. 1, 1853, got by the famous bull Crusade, (7932) dam Victoria by Sultan, (7566). Also a few COWS and PRIZE HEIFERS; SIX PURE-BRED CLYDESDALE DRAUGHT MARES, all winners of prizes, one of which, a three-year old, won eight first premiums last year, thereby beating all Scotland. Also, a few SHEARLING LEICESTER RAMS AND EWES, descended from prize sheep on both sides, combining beautiful symmetry, good quality of mutton, with a heavy fleece of fine wool. Benedict is one of the best bulls Buckingham ever got, and is from Mr. Richard Booth's famous cow, Hawthorn Blossom, who is dam and grand-dam of more good animals than any other cow in England. Capt. Balco perhaps the most promising young bull of the day, has been exhibited twice; first in Yorkshire, where he defeated, when only four months old, the animal that obtained the second prize at the great meeting held at York, although eleven months old; second at Haddington, East Lothian, when only a year old—he distinguished himself by not only obtaining the prize in his own class, but against bulls of all ages, a performance that has never been done at any previous meeting of that Society. He is entered for exhibition at the three following National Agricultural Meetings: The Royal English, at Lincoln, in July; the Highland Society at Berwick-on-Tweed, and the Royal Irish at Armagh, and could be delivered after the last meeting.

Victor is a very stylish calf and will make a show bull. The stock of the subscriber is a combination of blood of the most successful prize animals in England and Scotland during the last ten years; and any party wishing to commence breeding, or to improve their present stock, may secure the most valuable blood extant. He begs to state that he has had awarded him during the last ten years ninety-three premiums for Short-Horned cattle and 115 premiums for Sheep. The animals sold from time to time from this herd and flock have invariably distinguished themselves as winners of prizes. Personal inspection invited. For further particulars address.

JAMES DOUGLAS, Drem, East Lothian, Scotland. d.
helstanford Farm, June 13, 1854.

English Cattle.

TO Agricultural Societies and others requiring the best bred Cattle from England, embracing Pure-Blood Horses, Short-Horns, North Devons, Herefords, Ayrshire and Alderney Cows.

Also, Pure-Bred South Down, Cotswold, and Leicester Sheep.

Also, Suffolk, Essex and Berkshire Swine—Imported on commission into any part of the United States and Canada, by Messrs. THOS. BETTS & BROTHERS, of Herts, Eng.

Cattle ordered previous to first September, will be insured, if desired.

Every information with regard to terms and shipment of Stock to America, will be strictly attended to by applying to JAMES M. MILLER, 51 Maiden Lane, New-York City, who is fully authorized to act as our Agent.

JAMES M. MILLER, THOS. BETTS & BROS.
Agent, New-York City. Herts, England.
July 1—w&m3m

Thomas Gould,

BREEDER OF DEVON CATTLE. Suffolk Swine, Madagascar or Lop-Eared Rabbits, and choice and fancy Poultry, Aurora, Cayuga county, N. Y. Mar. 23—w&mtf

Devon Cows,

HEIFERS, and Bull Calves—pure blood—for sale by
H Feb. 1—mtf. B. V. FRENCH, Braintree, Mass.

Prouty & Mears' Plow.

A LARGE assortment of these celebrated Plows can be found at the North River Agricultural Warehouse and Seed Store, 53 Cortlandt-street, New-York.
March 1—mtf

GEO. H. BARR & Co.

Manures.

PERUVIAN GUANO. Improved Superphosphate of Lime, Bone Dust, Bone Black, Sulphuric Acid, Potash, Poudrette, Plaster of Paris, Charcoal, &c., &c., for sale by
GEO. H. BARR & Co.,

March 1—mtf
53 Cortlandt-street, New-York.

Albany Agricultural Works,

Warehouse and Seed Store, 369 and 371 Broadway, Albany.
THE subscriber having purchased the stock in trade of the above works, is now prepared to furnish to order a full assortment of Farm Implements and Machines adapted to all sections of the country, both north and south, among which may be found—

“Emery’s Patent Changeable Railroad Horse Powers.”
Overshot Threshing Machines with Separators.

Mowing and Reaping Machines.
Grist-mills. Corn-shellers and Clover-hullers.

Circular and Cross-cut Saw-mills, adapted to the horse power, for cutting fire wood and fence stuff, with a full and complete assortment of FIELD AND GARDEN SEEDS and FERTILIZERS. For further particulars, full Catalogue will be sent on application by mail.

RICH'D H. PEASE,
Successor to Emery & Co

March 30—w&mtf

North River Agricultural Warehouse and Seed Store.

No. 53 Cortlandt-Street, New-York,

WHERE may be found a large and complete assortment of the best and latest improved Agricultural and Horticultural Implements, Field and Garden Seeds, Fruit and Ornamental Trees, Fertilizers of all kinds, &c., &c.

March 1—mtf
GEO. H. BARR & Co.

Cider Mill and Press.

HICKOK’S CIDER MILL AND PRESS—This mill and press is conceded, by all who have seen and used it, to be the best—simple in construction, portable, weighing 275 lbs., and not liable to get out of order. Warranted to work well, and give satisfaction. The first premiums of the American Institute and Crystal Palace have been awarded to this machine. Price, \$10. Drawings and descriptions will be sent by addressing the sole agents,

LONGETT & GRIFFING,
25 Cliff-street, New-York.

May 1—mtf—w&mtf, J. J. A. & A. T. M.

Albany Tile Works,

Corner of Patroon and Knox-Streets, Albany, N. Y.

DRAIN TILE of the following descriptions and prices suitable for land drainage, always on hand in large or small quantities of the first quality, delivered at the docks and railroad depots free of cartage:

Horse-Shoe Tile.

4 $\frac{1}{2}$ inch caliber,.....	\$18 per 1000 feet.
3 $\frac{1}{2}$ do	15 do
2 $\frac{1}{2}$ do	12 do

Sole Tile or Pipe.

3 inch caliber,.....	\$18 per 1000 feet.
2 do	12 do

Large Tile for drains about dwellings, yards, &c., of various sizes, \$1 and \$2 per 100 feet. Sole Tile, 4 inch calibre, for sink drains at \$4 per 100 feet. Drain your land and save your crops. Orders from a distance will receive prompt attention.

A. S. BABCOCK.

Albany, April 20, 1854—w&mtf

Fertilizers.

BEST Peruvian Guano—
Super-Phosphate of Lime, “DeBurg’s No. 1”—
Poudrette, of the best quality—
Ground Plaster, suitable for agricultural purposes—
Ground Bone, Bone Dust, and Burnt Bone.
Also, Grass Seeds of reliable quality, at the lowest market price.

GEO. DAVENPORT, 5 Commercial,
Feb. 9, 1854—w&mtf cor. of Chatham st., Boston.

Super-Phosphate of Lime.

THIS celebrated fertilizer, where it has been fairly tested the last year, has been found equal, and in many cases superior to the best Peruvian guano, in its immediate effect, and much more permanently beneficial to the land. It is adapted to any soil in which there is a deficiency of phosphate, which is often the case. All crops are benefited by its application. It is composed of ground bones, decomposed by sulphuric acid, to which is added a due proportion of Peruvian guano, sulphate of ammonia, &c.

For sale, with full directions for use, in bags of 150 pounds each. No charge for package. All bags will be branded “C. B. DeBurg, No. 1 Super-Phosphate of Lime.”
GEO. DAVENPORT, Ag’t for manufacturer,
5 Commercial, cor. of Chatham st., Boston.

Feb. 16, 1854—w&mtf

Thomas’ New Farm Book.

FARM IMPLEMENTS, and the principles of their construction and use, with 200 illustrations. By J. J. THOMAS.

The following are only a few out of many of the commendatory notices which this work has already received from the press:—

We wish to see this work placed in the hands of every farmer and farmer’s son, as an indispensable book; and school commissioners should see that it has a place on the shelves of every rural district school library. It is admirably adapted for popular use as a text book. The illustrations are simple and excellent; and every statement is made in such a straightforward manner that even a child could not mistake the meaning. Mr. Thomas has done the agricultural community a great service in the preparation of this book.—[Horticulturist]

Those who are acquainted with Mr. Thomas’ previous works, need not be told that it is written in a clear, concise, practical style, and though eminently scientific, the language is so free from all unnecessary technicalities, and so pleasantly familiar, and at the same time so well illustrated and enlivened by appropriate incidents, anecdotes, experiments, &c., as to excite and repay the continued attention of the reader. We can sincerely recommend it as the best work on the subject on which it treats, extant.—[Moore’s Rural New-Yorker.]

This is an invaluable work for the practical agriculturist, affording as it does the theory of mechanical forces as applied in machinery used in farm labor; it will enable farmers to construct many indispensable articles, and to understand the principles and construction of all agricultural machines.”

—[Boston Herald.]

We know Mr. Thomas to be one of the most talented, well-educated, intelligent and enterprising agriculturists of the Empire State, and is with a graceful and attractive writer; thoroughly practical, and possessing an unusual share of good sense and a sound judgment. We consider the work before us one of the most valuable works for the farmer is-sued in a long time.—[Chicago Democrat.]

We have never seen so much philosophy brought to bear in a practical manner on the ordinary concerns of life.”

—[Presbyterian Banner.]

This book should be in every house having a garden belonging to it; it is as necessary to the farmer as his plow.”

—[Syracuse Journal.]

It should not only grace every agricultural library, but should be in every farmer’s hands. There is no tiller of the earth but may derive benefit and pleasure from this volume.”

—[Mirror.]

Just the book for farmers who wish to perform their labor intelligently and efficiently.”

—[Zion’s Herald.]

This is an interesting and invaluable work for the farmer, and should be in the hands of every farmer in the country.”

—[Ohio Farmer.]

An admirable hand-book for the intelligent husbandman.”

—[Protestant Churchman.]

We should be glad to see the book in every one of our schools and popular libraries.”

—[N. Y. Agriculturist.]

Published by HARPER & BROTHERS, New-York, and sold by Booksellers generally.

Appleton & Alderson’s Drain Tile Works,

Corner of Lydius and Snipe streets, Albany, near Mr. Wilson’s Nursery.

THE subscribers are prepared to furnish Drain Tile of the various and most approved Patterns, at from \$12 to \$18 per 1000 pieces. The Tile are more than 14 inches in length and a larger calibre than any of American manufacture for the same prices. We warrant every Tile to be perfectly sound, to fit good at the joints so as to admit water and keep out the dirt, and to drain Land from 12 to 20 feet on each side of the drain, according to the nature of the soil.

Also, large Tile for small brooks and drains about dwellings, &c. at from \$4 to \$8 per 100 pieces.

Tile delivered at the docks and railroads free of cartage. Specimens can be seen at Messrs. L. & W. MERCHANT’S, 71 Quay-st.

Full directions for laying Tile will be sent free to those addressing the subscribers. Orders are respectfully solicited.

Address, APPLETION & ALDERSON.

April 13—w&mtf 195 Washington-st, Albany, N. Y.

Ground Bone.

THE subscribers are now prepared to furnish Bone Dust by the barrel or ton in its pure and most efficient state, ground to any desired fineness. GEO. H. BARR & Co.,

March 1—mtf 53 Cortlandt-street, New-York.

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Fancy Lop-eared Rabbits.

I WILL spare a few pair from my choice stock of Fancy Lop-eared Rabbits, warranted equal to any in this country, for size, length of ear and general qualities. Price from \$10 to \$50 per pair. Address

S. V. C. VAN RENSSELAER.
Aug. 4—w6tm1t Claverack, Columbia Co., N. Y.

HICKOK PATENT CIDER MILL

As Improved for 1854.

THIS mill has received over Fifty Premiums, Diplomas, &c., during 1853, and is sold by the following Agents, who will distribute circulars, pamphlets, &c.—warranted superior to all others:

Longett & Griffing, 25 Cliff st. sole agents for New-York city.
Geo. W. Emery, Albany.
Dana & Brothers, Utica, N. Y.
Oliver & Helmer, Montpelier, Vt.
William H. Hill & Co., 32 Cornhill, Boston.
Chas. Ashley, Ogdensburg, N. Y.
C. M. Widrig, Elmira, N. Y.
Gregory & Smith, Binghamton, N. Y.
Prouty & Chew, Geneva, N. Y.
E. J. Foster, Syracuse, N. Y.
E. D. Hallock, Rochester, N. Y.
H. C. White & Co., Buffalo, N. Y.
Higgins & Calkins, Castile, Wyoming Co., N. Y.
D. Landreth, Philadelphia.
L'Amoreux, Hall & Russel, Townanda, Pa.
Made solely by W. O. HICKOK, Harrisburgh, Pa.

Aug. 10, 1854—w9tm2L

Fruit and Ornamental Trees.

THE subscribers are prepared for the Fall trade with the largest stock of FRUIT & ORNAMENTAL TREES ever before offered by one establishment in this country. It embraces

Standard and Dwarf Fruit Trees of the best varieties. *Strawberries, Gooseberries, Currants*, and all the small fruits worthy of cultivation.

Hardy Grapes, for out-door cultivation.

Foreign Grapes, in pots 1 and 2 years from the eye—more than 3000 plants of the best sorts.

Rhubarb, Asparagus, &c. in large quantities.

The Ornamental Department is equally extensive and complete, embracing

Hardy rapid Growing Trees for avenues and public grounds. *Ornamental, Standard and Weeping Trees*, for lawns, cemeteries, &c.

Flowering Shrubs for lawns and pleasure grounds in the greatest variety.

Hardy Evergreen Trees in immense quantities, embracing Norway Spruce, Balsam Fir, Austrian, Scotch, and Weymouth, or White Pines of all sizes.

Rare Evergreens, such as Deodars, *Cryptomerias*, Himalayan Spruce, &c.

Evergreen Hedge Plants, such as *Arborvitae*, Red Cedar, for ornamental enclosures in gardens and cemeteries.

Evergreen Shrubs for lawns, &c. such as *Mahonias*, *Rhododendrons*, *Tree Box*, &c.

Climbing Shrubs for trellises and verandahs, the finest *Honeysuckles*, *Clematis*, *Trumpet Creeper*, *Wistaria*, &c.

Roses—A large collection of the best varieties in cultivation, besides a complete assortment of the best new

Phloxes, Chrysanthemums, Peonies, Dahlias, Carnations and *Picotees*, and other hardy border plants.

Bulbous Flower Roots, embracing the finest *Hyacinths*, *Tulips*, *Crocus*, *Narcissus*, *Lilies*, &c., imported annually from Holland and forwarded from 1st Sept.

Green-House Plants—all the popular articles, the newest and best *Verbenas*, *Heliotropes*, *Fuchsias*, &c., &c.

Trees are taken up in the most careful manner and packages for distant points, put up in the best style. The following Catalogues will be forwarded *gratis* and prepaid to all who apply post-paid and enclose one stamp for each.

No. 1. A Descriptive Catalogue of Fruits.

No. 2. A Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c.

3. A Descriptive Catalogue of Dahlias, Bedding-out and Green-house Plants.

4. A Wholesale Catalogue for Nurserymen and Dealers.

5. A Supplemental Catalogue of Fruits, containing Prices of Fruit Trees for 1854 and '55, with lists of New Sorts, &c.

All orders will receive prompt and careful attention. The trade supplied as heretofore on liberal terms.

ELLWANGER & BARRY,
Mount Hope Nurseries,
Rochester, N. Y.

Sept. 1—m2tw90&91.

SUFFOLK SWINE.

I HAVE for sale, a few good Suffolk pigs, now about three months old.—Also my last year's stock boar "Boston," bred by the Stickneys, and selected for me by Sanford Howard, Esq. I can also spare one sow, the get of "Prince," (Prince Albert's Stock) served by Boston.

JOHN R. PAGE.
Sennett, Cayuga Co., N. Y.

Aug. 17—w3tm1t.

Suffolk Pigs,

OF pure blood, for sale by B. V. FRENCH,
Feb. 1—m1y Braintree, Mass.

THE CULTIVATOR:

A MONTHLY JOURNAL OF
Agriculture, Horticulture, and Domestic Economy.

THE PRICE REDUCED TO 50 CENTS A YEAR.

All subscriptions must commence with the January No and the payments must in all cases accompany the order for the paper.

LUTHER TUCKER,

Publisher, Albany, N. Y.

Single copies, Fifty Cents—Eight copies \$3—any larger number at the same rate.

Postmasters and all friends of agricultural improvements are respectfully invited to act as agents for THE CULTIVATOR and THE COUNTRY GENTLEMAN.